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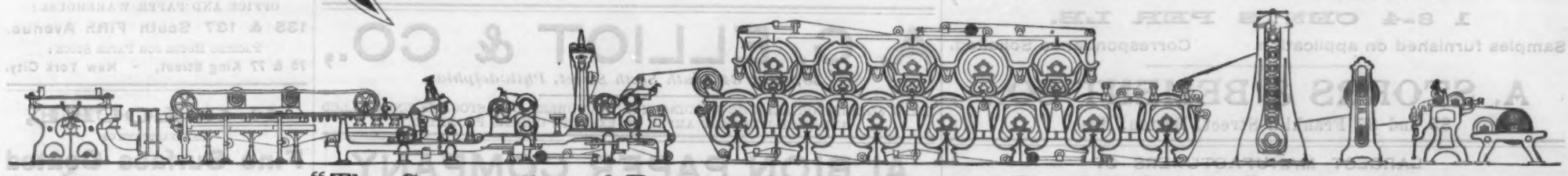
THE PAPER TRADE JOURNAL.



"The Consumption of Paper is the Measure of a People's Culture."

VOLUME XXIII.—NO. 19. NEW YORK, MAY 12, 1894. WHOLE NUMBER 1045.

Trade Topics.

Electrolytic Cell.

In an electrolytic apparatus, such as is used for the decomposition of common salt, and similar substances, a diaphragm is employed, the office of which is to keep the products of decomposition in their respective portions of the cell. Great difficulty has been experienced in obtaining suitable diaphragms for such cells, because a diaphragm impervious to the passage of the liquids and which will operate to keep them wholly separate is apt to interpose a high resistance to the passage of the current. The thing desired is some means of perfectly separating the contents of the cell while presenting a very low resistance to the passage of the electric current. Vegetable parchment, while affording a good diaphragm, lacks durability in a cell in which a corrosive substance like chlorine is evolved. Asbestus will resist the action of the chlorine, but if used in a form thin enough to present a low resistance will permit the liquid to pass through too freely, while if it is used in a thick form or sheet, which will prevent the passage of the liquid, it presents too great resistance to the passage of the electric current.

This invention has for its object to provide means by which these objections will be obviated, and by which the diffusion of the liquid contents of the cell may be prevented, while the resistance of the passage of the electric current is maintained at a minimum.

The device is simple and will be readily understood. Figure 1 is a vertical section of a cell or containing vessel showing it; Fig. 2 is a perspective of the upper portion of the supporting frame; Fig. 3 is a perspective of a portion of one of the side frames in which an electrode is supported.

The outer containing vessel or cell is shown at A and may be of any well-known shape or construction. The brine, or solution which is to be decomposed, is contained within the vessel A, the level of the liquid therein being indicated at *a*. An overflow is shown at *b*, which serves to prevent the liquid in the positive electrode compartment from rising above the level indicated. A similar overflow is provided in the negative electrode compartment. A frame, which may be termed the central frame, is shown at *c*, and may be constructed of lead or similar suitable material. This frame is made to fit the interior of the cell or vessel A closely. The cross piece *d* at the top of the frame *c* is joined to the upright portions thereof somewhat below the top of the latter, as shown in Figs. 1 and 2, so that the uprights may project above the crosspiece. The crosspiece is provided with a series of vertical holes, *e*. The sides of the frame *c* are made true so that a layer of material may be accurately and securely clamped on each of such sides, said layer being secured between the sides of said central frame *c* and the adjacent side frame *g*, which latter is likewise made true so that the layer or septum may be evenly and tightly clamped.

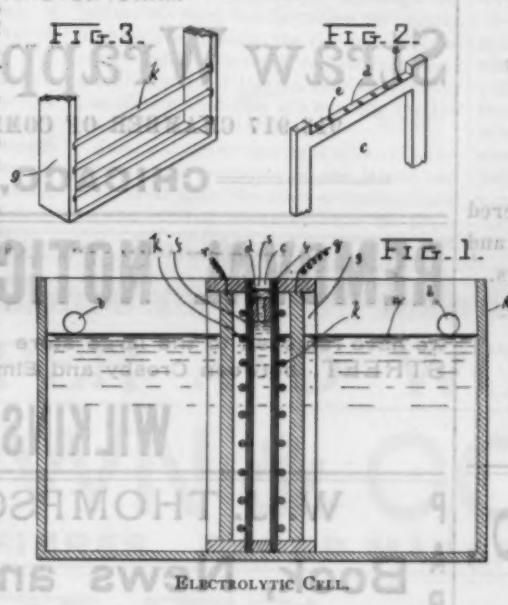
On each side of the central frame *c* there is placed and securely clamped a pervious layer or sheet, *f*, of material preferably composed of asbestus. These layers should be thin enough to offer a low resistance to the passage of the electric current, and are secured in place by being firmly clamped between the central frame *c* and side frames *g*. A series of rods, *k*, is placed in each of the side frames, preferably crosswise and adjacent to the sheets *f*. These rods may be secured in place by being laid in slots or recesses provided in the frames *g*, as shown in Fig. 3, and serve to prevent the asbestus layers from bulging toward the electrodes. The positive wire for the electric current is indicated at *q* and the negative wire at *r*.

The amount of space between the layers or septa *f* of asbestus will be governed by the thickness of the frame *c*, and this may obviously be varied as desired. This space between the layers *f* contains brine which is supplied as desired to the space *s* directly above the crosspiece *d* of the central frame *c*. This brine thus supplied passes down through the holes *e* into the space below the crosspiece, between the layers or sheets *f*. The level of the liquid in this intermediate space is maintained at a higher point than the level *a* of the liquid outside the space in the compartments of the cell. This causes a relatively greater pressure in the space between the sheets *f* and an outward flow or movement through the sheets *f* into the adjacent compartments of the cell, and thus operates to prevent the contents or the compartments of the cell from mingling.

The brine of liquid between the layers of asbestus *f* forms, as it were, a wall of liquid intermediate the compartments of the cell, and by reason of the pervious sheets of asbestus and the greater pressure produced by keeping the liquid at a higher level causes a movement of the liquid from the intermediate space in both directions into the adjacent compartments of the cell, thus maintaing the liquid partition or wall between the layers *f* in a pure state and free from any admixture of the liquid in either compartment and thus preventing the contents of the compartments from mingling. The greater pressure may be secured also by using between the sheets a liquid of higher specific gravity than is in the compartments of the cell.

The wall of liquid may be said to form the diaphragm. The asbestus layers are not subject to corrosion, and are therefore durable, and, being pervious, offer very slight resistance to the electric current. As these layers or sheets *f* are comparatively thin it is desirable that they shall be supported at more or less frequent intervals across their surface, as is provided for by the rods *k*. The flow of fresh brine for the compartments of the cell may be introduced in the manner indicated through the space intermediate the sheets *f*, and the level of the liquid in each of the compartments may be regulated by means of the overflows in the vessel A.

In certain forms of cell and notably in those in which is effected the decomposition of solution of common salt, it is not objectionable for the solution in the positive electrode compartment to penetrate in small quantities to the negative electrode compartment. Therefore the liquid partition or wall may be used with a liquid pressure therein greater only than that in the negative compartment, because in this case passage will not occur from the negative compartment through the diaphragm, and passage of liquid from the positive compartment to the negative compartment is not a serious objection as passage in the other direction is.



ELECTROLYTIC CELL.

Drying Paper.

SUGGESTIONS AS TO CLOTHING CYLINDERS.

[WRITTEN FOR THE PAPER TRADE JOURNAL.]

BY JAMES HALL.

It is a trite but nevertheless true saying that you "cannot make a silken purse out of a sow's ear." If you are to have a good sheet of paper, you must put good stuff into the engines; but it is equally true that every man cannot make a good sheet of paper whatever kind of material he may use; while others do not make quite so good a sheet as they might out of the material which they have at their disposal—and all for want of some little attention to the mechanical details in the process of making.

It is often said that the paper is made in the beaters—and nothing can be nearer the mark; for if the stock is not properly manipulated "up stairs," there is poor chance of the machine tender improving it when it comes down to him.

My remarks, however, do not apply to a case of this kind, but to that in which the stuff has been properly treated in the engine and let down to the machine as perfect as it is possible for it to be.

There is no doubt but that the science of paper making dwells largely in the beating engine room. The first step is to furnish the engines; and in doing this regard has to be had to two things: First, the use of such materials as will produce in quality and strength the result intended; and, secondly, that these materials shall not exceed a given maximum value, thus destroying all chance of making the paper at a profit. In furnishing, some regard has to be paid to the choice of the materials, care being taken to use only such items of stock as will run well together and have the greatest possible affinity for each other; but after all this has been done there is still ample scope for the exercise of skill and ingenuity in beating the stock, and it is here where the science of paper making really comes in. A beaterman who knows his business will neither beat his stock too quickly nor too slowly, nor yet let it down to the machines too long or too short. Presuming therefore that all of those details have been carefully attended to, and that the machine tender gets his supplies of pulp as perfect as he would like them to be, the making of the paper after this assumes more of a mechanical operation.

A machine tender's duties are necessarily very multifarious, but the essence of the whole is to see that every part of the mechanism is performing its separate functions with a view to making the best possible sheet of paper. He has to regulate the flow with the minutest exactness, not having one side too thick and the other too thin, but uniform throughout; to see to the proper closing up of his sheet, and that it is coming off the machine of the right substance, and that it is not damaged in any way by imperfections of wire, dandy or felts. All this being done to his perfect satisfaction, the paper is passed on to the driers. In some mills the machine tender's duty and responsibility end here, for the drying of the paper is taken up by another individual—a kind of dummy—called the drierman. This arrangement is not always successful, and I am of the opinion that the plan is not wise. There is a good deal of paper spoiled by imperfect drying, for the men in charge of this work are not always of the most intelligent kind and perform their duties in a very perfunctory sort of way.

On the other hand, a machine tender who is sufficiently master of his work as to carry his paper successfully up to the driers is decidedly the man best qualified to see to its proper passage across the cylinders, and the second man ought to be his assistant, ready to help at any part of the machine. This arrangement throws all of the responsibility on the machine tender, where it ought to rest; and a machine tender who has his heart in the work would prefer to have it so; and it is, moreover, much better for the second man, as he is more likely in this way to learn the duties of a machine tender than by merely attending to the duty of drying the paper.

So much for the men and the arrangement of their duties. Now as to drying itself. In almost every mill I have visited in the United States, and in news mills exclusively so, the cylinders are clothed with cotton felts, one felt only being used for the top cylinders and one for those at the bottom. Machines vary of course in the number of the cylinders. The diameter of the cylinders on all modern built machines is 4 feet. This is now the orthodox, as it is the most convenient size, and machines with cylinders of 28 and 30 inches in diameter built many years ago are now almost obsolete and will certainly never be reproduced.

For fast driving on news it is usual to have about eighteen cylinders, ten below and eight above, but in machines built for book and writing papers fourteen or sixteen cylinders are ample, and are usually arranged in the proportion of six and seven at the top and eight and nine at the bottom. To cover a series of cylinders like these requires very long felts, especially so on the news machines, where the bottom felt was to cover nine or ten cylinders, and that at the top seven or eight, according to the aggregate number of the cylinders. These felts receive the paper from the second press in its wet state and have to travel with it to the end of the machine, on reaching which the paper is expected to be dry and ready for the calenders.

Now it is in my judgment a little unreasonable to expect one felt to do this. The felt itself necessarily becomes damp from contact with the damp paper, and although the sheet is sometimes omitted from one cylinder, both top and bottom, where no felt driers have been specially constructed for the machine, in order that the cylinders thus liberated may act as felt driers, still the drying is only partial, and the felts are almost always wet—which has a corresponding effect on the paper, and not unfrequently results in the paper handling as if two substances existed in the same sheet. Another evil result arising from this is the variation of the tension, which increases the chances of the paper snapping off as it leaves the cylinders for the calenders, especially where the machine is traveling at, say, 250 feet per minute, or more.

In the case of news the effect of this kind of drying may not be so important a consideration in respect to the quality of the paper as in that of book or writing. In these papers the matter of drying is of far greater moment, and the one felt system of drying is not by any means the best for securing the highest results; nor are the higher grades of paper improved by the use of cotton felts throughout the machine. At no mill in Great Britain making book or writing papers, plate or lithograph papers, &c., is a cotton felt used except on, say, the first three cylinders, top and bottom, next to the press. As a rule the cylinders are divided into two and sometimes three sections, according to the size of the machine. Take a machine, for example, of twelve cylinders, such as will be found represented by the cut at the top of the first page of THE PAPER TRADE JOURNAL. This machine on the higher grades of paper would be clothed as follows:

The two top cylinders and three bottom ones at the wet end of the machine would be covered with good cotton felts and the next three at the top and the other four at the bottom by good, strong woolen felts. A machine so clothed does three things: First, it does the drying more effectively as a mechanical process pure and simple; secondly, it does not deteriorate, but considerably improves the quality of the paper; and thirdly, the felts will not only last longer, but in case of accident are not so costly to replace as one extending the full length of the machine. Anyone doubting this let him try it for himself and he will never go back to the present mode of drying.

Further, the drying of the paper by means of woolen felts helps the finish and lessens, and that very materially, the need for so much calendering. The great object of a paper maker, or at least of his customer, is to get the best finish and thickest handling sheet combined. Some papers, and necessarily those made from wood, are calendered so heavily as to leave them very thin in the handling, according to their substance. So much reliance does the English paper maker place on his last bottom woolen drier felt for giving appearance and finish to his book and writing papers, that I have seen when an accident has happened to this felt, and there being no other in stock but a cotton one of the same size, it has been put on, but taken off again immediately that a new woolen felt arrived, and an improvement in the sheet would be the result at once.

Lastly, in order to still further improve the finish and lessen the calendering power, place a smooth roll of, say, 12 or 14 inches diameter on the last top cylinder, presuming this to be clothed with a woolen felt, and the result will surprise even the most skeptical.

Practical Hints and Helps Around the Mill.

[WRITTEN FOR THE PAPER TRADE JOURNAL.]

J. F. C.

In repairing belting it is very often necessary to punch out the rivets from the old belt, and the handiest article for this purpose is made as follows:

The material required is a large nut with a half inch bore in it (an old one will do, but a new one without any thread will do better) and a bar of three-quarter inch flat iron or steel 25 inches long. Bore a three-eighth inch hole in one end of your iron bar half an inch from the end, and weld the other end to the nut; then bend your bar in the centre and double it, bringing the two holes exactly in line over one another, and leaving a space of half an inch between the nut or head and the upper arm. This will suffice for a belt 25 inches wide by changing from side to side. When the top hole is over the rivet the bottom one receives the rivet as it is punched out. A sharp pointed prick punch is the best for punching out the rivets.

Before leaving the subject of belting a word must be said regarding the choice and preservation of belts. In selecting a belt, while thickness may be a seeming recommendation, weight and solidity are of much more importance. A belt may be thick and soft or coarse grained, and apparently of fine quality so far as appearance goes; but to properly select a belt, let it be with reference to its fineness of grain and weight. Run the nail of the thumb along the edge of the leather, and if the surface is hard and shows little or no impression the grain is fine and solid; but if the nail makes a clear indentation on the edge it is a certain indication that the grain is coarse and pulpy. A good driving belt, double and of the best quality, should weigh from 32 to 36 ounces to the square foot, and a good single belt should weigh from 16 to 20 ounces to the square foot. This applies to belting 12 inches wide and upward, narrower belting being slightly lighter, unless specially ordered.

It is very often found necessary to employ rubber belts for driving purposes, on account of the pit of the driving pulley being subject to great dampness and occasional overflow during rainy seasons. It is very often annoying to find the lacing wearing out or tearing, and if the load is intermittent

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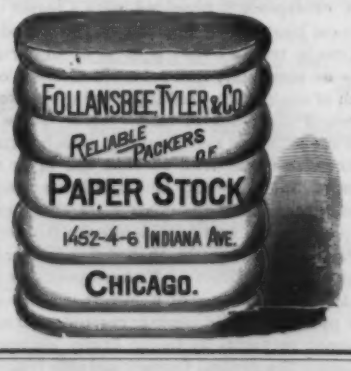

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and the belt way narrow, as is usually the case, the belt will be apt to vibrate more or less and the lacing wears out quickly by striking any of the surface of the belt way, besides causing an incessant thumping and a loss of power through friction. A lap might be cemented on a rubber belt to make it endless with a suitable rubber cement; but I doubt if it is practicable. An effective method is employed sometimes to lessen the evils of lacings on large belts by taking a strip of leather of the width of the belt, and about 16 or 20 inches long and one-eighth to three-sixteenths of an inch thick. Shave the leather down to a fine edge on each end and place it over the lacing on the outside, letting it project equally on each side of the lacing, then rivet it to the rubber belt, putting a row of rivets close together near each edge and a thinner row inside. This protects the lacing from cutting and wear in thumping on the belt ways, and also takes a part of the strain from the lacing, making it wear much longer than usual.

For the preservation of leather belting it is essential that the belt shall be protected from dampness and moisture as much as possible. A leather belt will act precisely as a pair of shoes will when wet; it will shrink and harden, only in the case of a belt the moisture softens the cement and the whole fabric comes to pieces. A belt ought to receive the same treatment to keep it protected from dampness that is bestowed on a pair of shoes for a similar end, a coating of a substance which is composed partly or wholly of oil or grease; this acts as a waterproof and keeps the moisture from penetrating to the fibres or cement, and by softening keeps the belt soft and pliable, adding to its grip on the pulley.

There are many belt and leather dressings on the market, the ingredients being mostly tallow, linseed oil, neat's-foot oil, rosin and castor oil. Neat's-foot oil and tallow are generally the base of most of them, the other rosins or oils being added to give the necessary adhesiveness to the belt which seems so effective in cases of slipping. Neat's-foot oil is undoubtedly the best dressing for leather belting, as it is the natural grease of the hide, and in combination with castor oil will give a dressing which will answer all of the purposes of a good dressing. Many mills make a practice of oiling their belting once a week, having a regular time for it, and this idea might be introduced into numerous others with much profit to all concerned.

As a dressing for rubber belting raw linseed oil is conceded to be as good as or better than most others. Powdered rosin is the remedy generally employed by the help in paper mills as an antidote for a rubber belt which is slipping. It is too often indorsed by the superintendent also; but it is an article which should not be used on either a rubber or leather, or indeed on any belt of whatever material. It certainly has a powerful influence in tightening a belt temporarily, but it generally ends by adhering in lumps to the pulley and forming a thick wax which sticks to the rubber coating on the belt and tears it off in strips and patches, thus leaving the cotton fabric bare, and when it is once wet the belt becomes saturated and rots. This compels piecing and splicing and more rosin until the belt has to go to the ash heap, and seems suggestive of the biblical declaration that the "wicked shall not live out half their days"—only the wickedness in this case is imparted to the belting, which alone suffers the penalty.

A handy press with which to repair small belting around a mill may be found in a copying press, or a carpenter's vise may be rigged up in a frame for the same purpose. When a belt habitually slips or comes off because the pulley is too small or the load too great and it is not convenient to make the proper change, a remedy and a very good one may be found by covering the pulley or pulleys with leather. It is very often a hard matter, especially on a small pulley to get a covering to stay on properly, and there is no known cement which will secure a covering on a pulley on the surface of the iron without riveting. To prepare and cover a pulley in the most thorough manner requires some time, as the pulley should receive one or two coats of white lead paint and be thoroughly dry before the covering is applied. This makes a groundwork on which the cement will take hold and stay. The best cement for the purpose is composed of 40 per cent. of ground glue, 40 per cent. of fish glue and 20 per cent. of Venice turpentine.

Having got your covering cut to the circumference of the pulley and of the proper width soak it thoroughly with water and suspend it somewhere with a heavy weight tied to it or stretch it in any way convenient until it is quite dry; then, if the belt has any tendency to run to one side, begin about an inch or so from the centre of the strip of leather and shave it down slightly toward the outer edge; this leaves it thickest in the centre and forms a "leader" for the belt, making it run steadily in the centre of the pulley. Cut a lap on both ends or it may simply be butted, although a lap makes the best job; then, with the cement steaming hot, start to laying the cover around, cementing only a few inches at a time and rubbing the leather smooth and firm all over. If you have painted your pulley it will hold the covering without any rivets; but if not you must drill rivet holes around your pulley, clean it of all grease and oil, using benzine, soda ash, or vinegar; then heat your pulley with hot water or an alcohol lamp until it is quite warm; put your covering on as above directed and rivet, punching your rivet holes through the leather from the inside of the pulley.

Paper no doubt makes a cheap and good covering; but for a good, substantial covering leather cannot be excelled and its capacity for gripping with the belt is much better than the bare pulley and is not excelled by paper. A good leader for a belt which runs unsteadily or travels from side to side, is made of a strip of leather 3 inches wide and shaved down to an edge on its sides, from the centre. This is secured on the centre of the pulley in the same manner as a covering.

Correspondence.

Miami Valley

[FROM OUR REGULAR CORRESPONDENT.]

DAYTON, Ohio, May 9, 1894.

Business conditions remain much the same as reported last week, save possibly a slightly increased dullness. When trade is at a comparative standstill in various sections it carries a significant weight in transactions at other centres and the sympathy soon extends boundlessly. Although the indications point to a favorable resumption in the course of time, the old man with the scythe seems particularly well laden. Paper manufacturers of Dayton and surrounding towns state that they are hustling for the orders now at their command.

Among those so directly or ardently interested in the retention of the Miami and Erie Canal none are more enthusiastically earnest in their endeavors than the paper trade men of Ohio, and particularly those of the State's renowned and fertile Miami Valley. The following resolutions adopted by the State Board of Public Works show its position on the question of abandoning the canal, and no class of manufacturers will hail the news with greater delight than the paper men:

"*Whereas*, certain legislation is now pending, looking to the abandonment of a certain portion of the public works of Ohio; and

"*Whereas*, electrical experiments have been and are now being made which indicate very clearly that a new era in inland navigation has begun, which, if successfully applied to canals of our State, will make them profitable and of great utility to the general public;

"Therefore, it is the opinion of the members of the Board of Public Works, of Ohio, that no legislation inimical to the public works, or contemplating the abandonment of any portion of the canals of the State, should be enacted at this time; and it would be a dangerous precedent for the public works of Ohio, as the abandonment of other parts of the canal is being strongly urged, and is only waiting the outcome of this effort."

Thomas Millikin has submitted a plan looking to the speedy and satisfactory adjustment of the Gunckel bank affairs. His idea is here outlined:

"Let the creditors select the property that they will respectively take at the appraised value; provide for the creditors who will not agree to purchase by paying certain portions and extending time on the residue; have the bank assignment lifted, placing the bank in the hands of some competent person for liquidation; let the bank purchase as mortgagee the property so selected, paying for the same by turning in to the assignee of the mortgagor claims to an amount equal to the property selected or purchased; thus, the bank then being the owner of the property can sell the same to creditors as selected, the deeds for the same to be held in escrow until all of the claims against the bank are satisfied."

Thomas Bishop, chairman of an informal meeting held some time ago, states that several weeks ago creditors representing about two-thirds in amount of the unsecured liabilities, gave Mr. Gunckel power of attorney to assist the trustee in converting the assets into money, and that Mr. Gunckel has already effected sales of the real property of the bank, aggregating $35,000, an amount equal to three-fourths of the entire unsecured liabilities. It is understood that this real estate is to be taken by the creditors at the appraised value, the smaller creditors to be paid in full. The uncollected and undisposed of assets remaining will not only pay all of the liabilities of the bank in full, but there will be a surplus of almost $30,000 to divide among stockholders. This is the situation as stated at this writing.

The petitions of Receivers Harrison and Fox relative to a sale of the mills of the Friend & Fox Paper Company have been granted. The property included in this sale, which will take place on or before the 30th inst., embraces the Lockland, Crescentville and Rialto mills. All of the warehouses and other property involved will likewise be disposed of at auction, and it is hoped that a fair price may be realized.

The Harding Paper Company, of Franklin, has resumed operations in the finishing department.

The pulp mills of the Eagle Paper Company, at Franklin, have been temporarily closed on account of the scarcity of coal. Occasionally this is necessary in mills in this valley, but it is not predicted that the prevailing coal miners' strike will materially affect operations in this section of Ohio.

John Bachman, employed at the Wardlow-Thomas paper mill at Middletown, had his right hand caught in the calenders the other day and suffered a serious injury.

Burglars entered the office of the Wardlow-Thomas Paper Mill, at Middletown, recently, and after turning the contents of the safe upon the floor fled without material gain.

The Middletown Paper Company, which was recently sold under order of the court by Trustee Todhunter, has been incorporated under the name of "The Jacoby Paper Company." The stockholders of the new concern have met and elected the following named directors: G. C. Jacoby, G. N. Clapp, W. L. Dechant, Mrs. G. C. Jacoby, Mrs. G. N. Clapp. The new directory thereupon selected George C. Jacoby as president and treasurer, G. N. Clapp secretary and general superintendent, Wm. McLane foreman, J. M. Johnson salesman. Foreman McLane at once started the work of overhauling, and smoke issued from the stacks this week for the first time since last October, a lapse of over half a year. The

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mill will probably be in operation by the time this appears in print. A large number of orders are now on hand awaiting attention, and work will progress uninterruptedly.

The election of Paul J. Sorg as representative in Congress from the Third District has been heralded broadcast and it is scarcely necessary to repeat the tidings as a matter of news. The trade joins in congratulations to a man of sterling integrity and honest convictions. Butler County, his place of residence and the city of Middletown, piled up an unprecedented majority. The paper trade may feel justly proud of its member so lately gained by reason of his connection with the Middletown Paper Company's property transfer.

The Laidlow-Dunn-Gordon Company, of Hamilton, will erect a magnificent factory at Cincinnati. Active preparations are in progress and the plans have so far advanced that their culmination will depend entirely upon the rapidity of the manual work in construction.

Samuel W. Margerum, trustee, has brought an action against Charles F. Gunckel for $5,103.33 with 6 per cent. interest from August 28, 1893; for $941.65 with 7 per cent. interest from July 20, 1893; for $2,800 with 6 per cent. from October 6, 1893; for $5,000 with 6 per cent. from September 27, 1893; for $1,095.07, also for $3,656.26. These suits are based on promissory notes executed and delivered by Chas. F. Gunckel to the Gunckel Banking Company. Mr. Margerum has entered a number of other suits to recover various sums ranging from $300 to $3,800, and the judicial hopper is well filled.

M. V.

Great Britain.

[FROM OUR REGULAR CORRESPONDENT.]

LONDON, England, April 28, 1894.

Honor bright, I am a convert to the merits of American "news." I watched a Hoe machine rattle off a mile or two of it the other day, and it is extremely good paper from the printers' point of view. All the same, one of the editors of a London paper trade journal goes a little too far in praising it by the aid of comparisons very disadvantageous to the English makes. Of course he had a motive; most people have nowadays; but he is a very considerable —— when he says that he has known "many men" who have given up some particular English paper because they get covered with fluff and loading, and the process of reading the morning sheet gives them a "miller's garb." This is all nonsense; but I agree with Mr. Smith, of Denny, in his opinion that your stuff is better than ours. It has a harder surface and a good rattle.

The editor whom I have quoted, in order not to outrage cockney ideas I suppose, says that American news is selling well "among the provincial papers." It is going one better than that. I know a London morning paper and a great London weekly journal which are using it. I do not see really why with your facilities of raw material you cannot beat us hollow in price and quality of news; but you must allow me to say that I think the thing works two ways. I am equally incapable of understanding how you can profess to take the shine out of us in writings and ordinary printings.

Of course in your supercalendered paper you were thousands of miles ahead of us much less than ten years ago, and I honestly believe that even now you have, say, a few yards to your advantage; but for all that one or two of our mills now turn out a beautiful supercalendered sheet, and notably the Scotch mills have made progress in this direction.

Kellner has just patented a process by which he gets strong cellulose, thoroughly bleached. Any paper man knows that these have been hitherto almost incompatible terms, the bleaching process taking so much out of the stuff. To take away the foreign matter from the wood or other fibre he treats it in a damp state in a closed chamber with an oxidizing gas such as nitric acid, nitrous acid or hydrochloric acid. After this the fibre is put into a crushing mill and beaten up with cold or hot water. Next an alkaline solution is used, which dissolves the foreign matter made insoluble by the action of the gas and precipitates it. After this the stuff is ready for the beater. Ammonia is a good alkali to use, as it can easily be recovered, but some kinds of wood necessitate the employment of carbonate of soda or caustic soda, and when these are used considerable economy is effected by treating the fibre with them in the crushing mill.

By the bye, in an English contemporary I notice one of the most horrible hashes that I ever saw made in an endeavor to give an account of this idea of Kellner's.

A very shocking, but fortunately very unusual fatality occurred lately at Olive & Partington's works at Glossop, Derbyshire. Four workmen there were poisoned by arsenic, and two of them subsequently died. They were taken violently ill while mixing the chemicals used in tinfoil paper manufacture, and at the inquest it was proved that the hydrochloric acid employed for the purpose was heavily charged with arsenic. Of course the whole thing was an accident. It has never occurred before, and is never likely to occur again, and possibly the United Alkali Company, which supplied the acid, is free from blame in the matter. At the same time it was censured by the jury.

A pretty and well situated mill in Ireland, at Larne, will be sold at auction on May 11. Few mills are better provided with water and facilities for the import of raw and the export of manufactured material. For all that the history of the place has been one of disaster for some years. The last people who had it—Gifford, Beers & Co.—started with too little capital and it took less than a year to pull them up. Paper making does not seem to flourish in Ireland. There were fifteen mills at work there in 1884; to-day there are eleven, all told. Most of these are one machine works on browns, but there is a fine mill worked by the North of Ireland Paper Mills Company, at Ballyclare, which makes a capital sheet of news and has pretty well the monopoly of the Irish press. This has four machines running up to 116 inches. Still every year a mill seems to drop out of work in "the most distressful country."

I mentioned in my last letter the success of the eight hours' working day experiment of Messrs. Mather and Platt. It is worth noting that Mr. Mather, who is a member of Parliament, voted against the eight hours' day for miners. His contention is that the men must be unanimous, or practically unanimous, in desiring an eight hours' day, and the majority of the North country miners do not like the idea. I have talked over the matter with several paper makers here and they say that so far as their trade is concerned it will be the last straw. One of them, who is in the House of Commons, told me that if a bill seemed likely to become law which included the paper making industry in the scheme he would rise in his place and say: "Do not shoot, Mr. Speaker, I will shut down." I think that he will be disappointed if he does not get an opportunity to work this little joke off in the House.

I rather fancy that I see signs of exhaustion in our Papermakers' Association after its late tremendous effort in holding a meeting. Two prominent South country papermakers traveled up into the North to assist at a meeting at which sixty or seventy paper men should have put in an appearance. The "demnition total," as Mr. Mantalini would observe, of the audience was something under twenty, and the South country men were wroth. Somehow or other, except in the face of immediate danger, our paper men cannot make common cause. A big mistake, too, that they have made is the exclusion of the press from their meetings. At the big meeting referred to they had actually sent telegrams to the editors of several trade papers requesting their attendance, only to slam the door in their faces on their arrival. This of course was adding insult to injury, and one or two of the trade journals were wroth, and, moreover, spluttered in their wrath. One of them in hot anger wrote a leader, which for bad grammar annexes a whole bakery establishment.

ALFA.

Fox River Valley.

[FROM OUR REGULAR CORRESPONDENT.]

APPLETON, Wis., May 8, 1894.

A very lamentable accident occurred last Sunday whereby three paper makers, two of whom had lately come from mills in Lawrence and Holyoke, lost their lives. Charles Cragin, John Hutton and William Windgrove went out fishing on Lake Winnebago on Sunday morning. They were caught in a high wind which came up in the afternoon and were blown across the lake to the eastern shore. The bodies of Windgrove and Cragin were recovered yesterday afternoon on the shore about 60 rods apart. Hutton has not yet been found. It is thought that the boat capsized about 4 o'clock on Sunday afternoon, as the watches found on the bodies had stopped at 4:15. Cragin was twenty-three of age, unmarried. He came from Lawrence, Mass., about two weeks ago and was employed by the Howard Paper Company, of Menasha. Hutton was about thirty years old, also unmarried, and came about a month ago from Holyoke, and was employed by the Gilbert Paper Company. Windgrove was a married man and leaves a wife and six children, the eldest eleven years of age. He came from Fergus Falls, Minn., about three months ago and was also employed by the Gilbert Paper Company. His family is left in poor circumstances. Hutton's body is still being sought.

S. R. Wagg, who has for many years been superintendent of the mill of the Fox River Paper Company, ended his connection with that company on Saturday night, April 28, and his successor, John De Varennes, assumed charge on Monday, the 30th. The following evening, shortly after 6 o'clock, Mr. Wagg was called into the mill ostensibly to see to something about the automatic sprinklers. He was taken to the second story of the Lincoln mill, over the beater room, where to his surprise he found all of the company's employees gathered together evidently according to some prearranged design. As soon as he appeared a large roll top desk was pushed forward into view and the victim was by a flash of inspiration made aware of the character of the gathering. Mr. Reynolds made a speech, in the course of which in behalf of the employees, he presented Mr. Wagg with the desk, with a solid gold chain and Masonic charm suitably engraved, and informed him that money was also remaining to purchase him a ring as soon as his tastes were ascertained. No hint of these proceedings had reached Mr. Wagg, who was wholly unprepared to do rhetorical justice to the occasion. He managed, however, to express his appreciation of the kindness of those who had been under his direction and the substantial way in which it was shown, and the meeting broke up with warmest feeling on both sides.

The Winnebago Paper Mill, of Neenah, is making some important improvements in its steam system by which it expects to economize considerably in fuel. One paper machine is being fitted for using exhaust steam for heating the driers. A Webster heater is also being put in for heating the boiler feed water by exhaust steam from the driers and heating system of the mill. The Winnebago people have also just put in a new "Leader" diaphragm screen, which was started up yesterday on trial.

The Falls Manufacturing Company has given an order for two 48x48 inch iron tub beating engines, for its new mill at Oconto Falls, to the Dayton Globe Iron Works Company.

The Dells Paper and Pulp Company, of Eau Claire, has not yet ordered all of its machinery. There will be some new grinders and screens and a new steam boiler plant, none of which are yet ordered. The beating engines of the old mill will be used.

The Kimberly & Clark Company has lately put in its Kimberly Mill on trial one of the "Success" screens made at Sandy Hill, N. Y.

There has of late been considerable good natured rivalry in the valley over the biggest runs of paper made without a break. The Neenah Paper Company last week reported a run of paper 80 inches in width and 200 miles long. Now comes the Kimberly Mill with a report of a 94 inch sheet 222 and a fraction miles in length.

The trust has dismantled the Badger Wall Paper Mill, at Kaukauna, and ordered all of the machinery to be shipped East.

Fred Huband has been appointed superintendent of the Gilbert Paper Company's mill at Menasha. He has been with the company ever since the mill started, gradually working his way up until he reached the position of head finisher, from which he has been promoted to superintendent.

John S. Van Nortwick has returned from his trip to Hot Springs much rested by his vacation outing.

W. W. Mead, of Chicago, was in town last week.

E. R. Marshall, of Turner's Falls, Mass., is in town looking over the refining engine market.

S. H. Tacy, of the Muncie (Ind.) Pulp Company, was in the valley on business last week.

John A. Kimberly, Jr., of the Neenah Paper Company, is making a business trip through the South.

C. A. Waterbury, of Oriskany, N. Y., is in town.

F. E. Hodding, of Appleton, has accepted a position with the Falls Manufacturing Company, of Oconto Falls.

Albert Gilbert, of Menasha, has commenced the erection of a fine new residence. He leaves this week for Port Gibson, Miss., where Mrs. Gilbert is at present visiting.

FOX RIVER.

Boston.

[FROM OUR REGULAR CORRESPONDENT.]

EASTERN OFFICE PAPER TRADE JOURNAL, 67 FEDERAL STREET, BOSTON, May 10, 1894.

Sixty years is a long time, and yet the business now carried on by the Rice, Barton & Fales Machine and Iron Company, of Worcester, Mass., dates back nearly that length of time, it having been established in 1837—just fifty-seven years ago, to be historically correct.

Those years have brought many changes, and the hand of progressive enterprise has wrought many valuable improvements in the paper manufacturing industry of the country, to which the Rice, Barton & Fales Machine and Iron Company has contributed somewhat through its improved paper mill machinery.

As the paper manufacturing industry grew, so did the business of the Rice, Barton & Fales Machine and Iron Company, until the old time quarters gave way to a plant of more extensive proportions.

It was only some six months ago that the company got settled in its new quarters, the building of which and the moving of the machinery into the several shops was a matter of some magnitude.

It was to inspect this plant and to examine a new paper machine just built by the company that a party of gentlemen made the trip to Worcester last week at the invitation of Charles S. Barton, president and treasurer of the company.

Of the visitor's reception at the Worcester depot, of their hospitable entertainment at the club by Mr. Barton and his associate, Mr. Witter, I wrote last week, reserving

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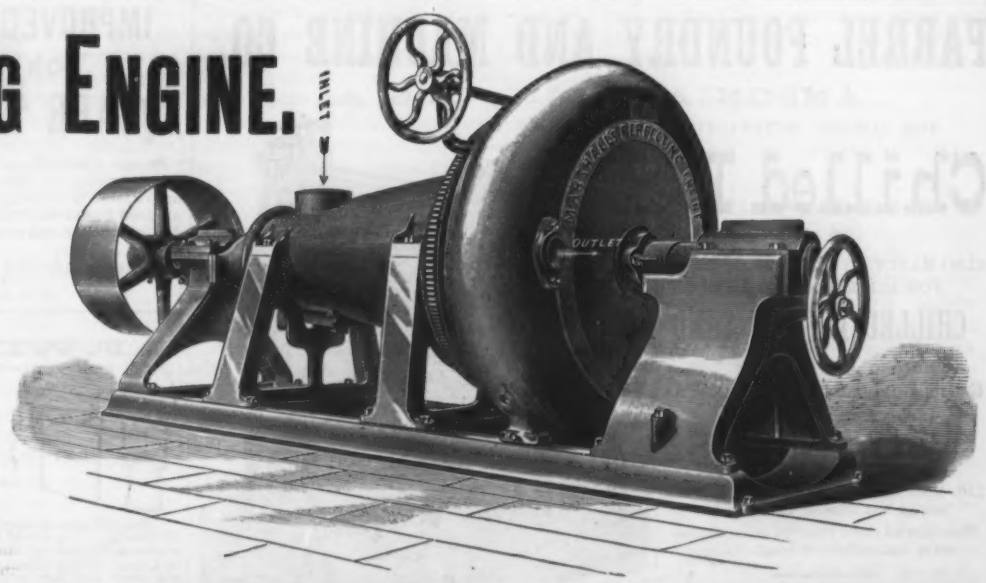

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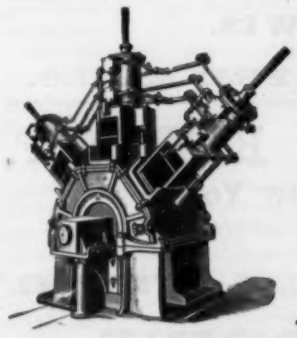

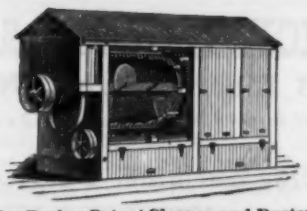

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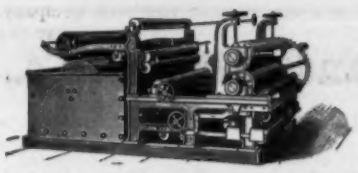

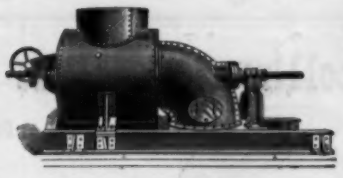

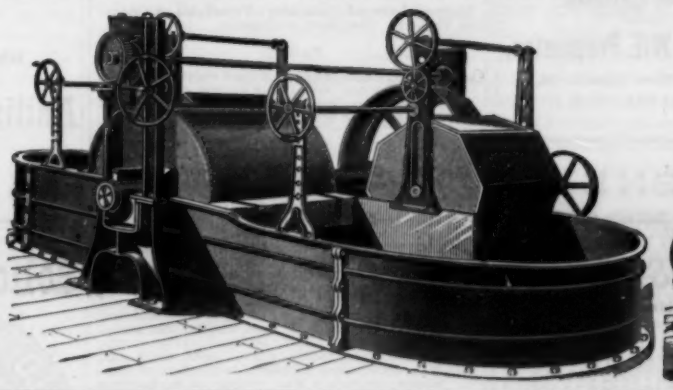

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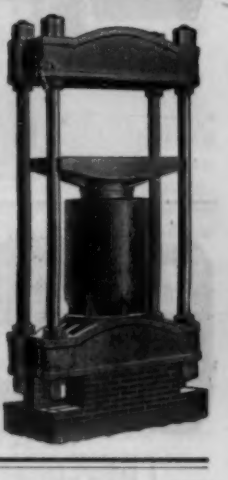

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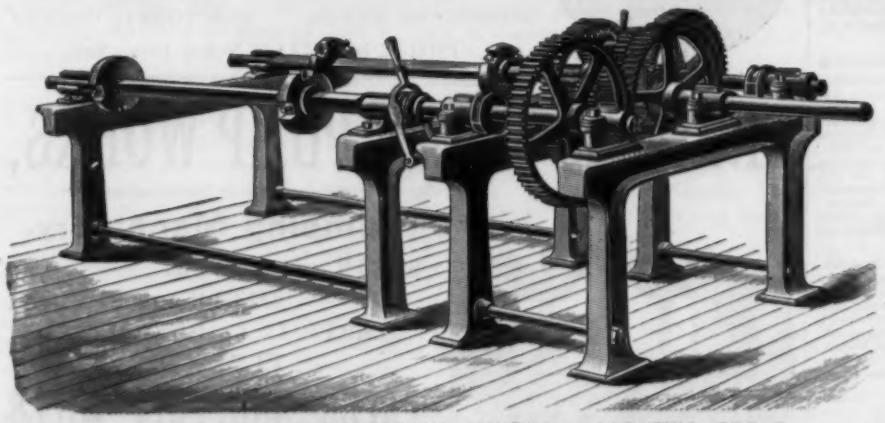

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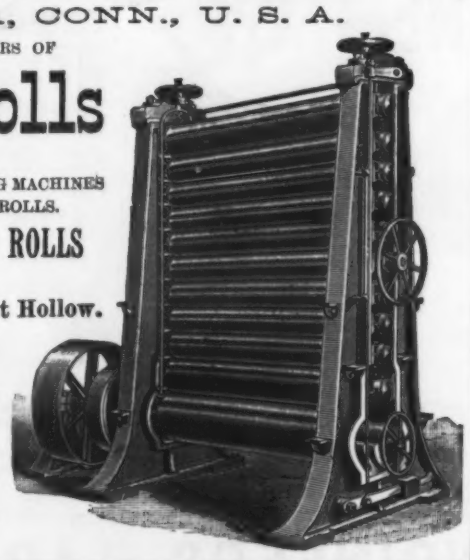

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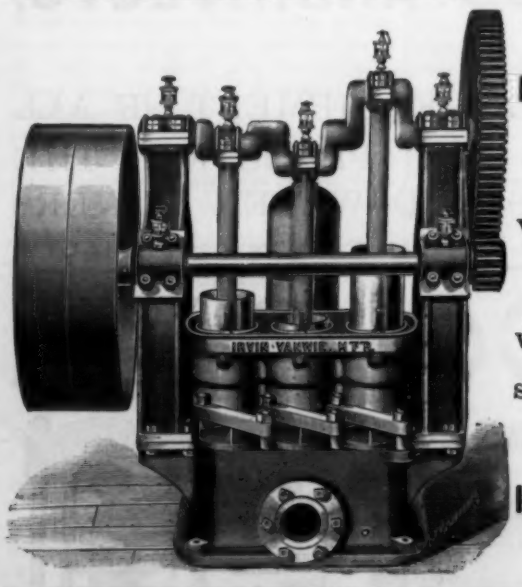

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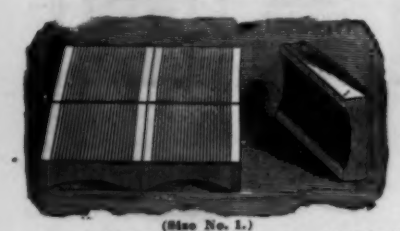

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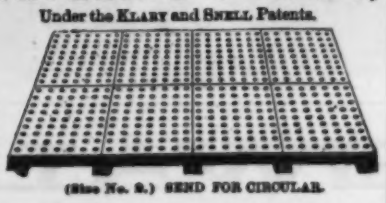

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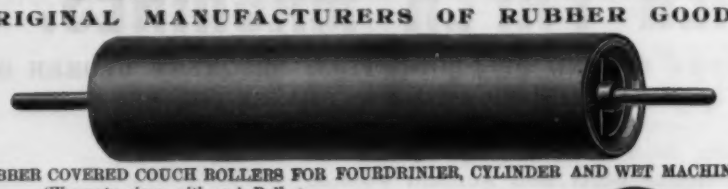

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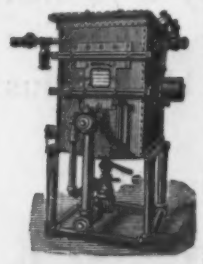

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CHAPTER III.—**Processes for Isolating Cellulose.** Rag boiling; special treatments for various fibres, as jute, straw, esparto; review of miscellaneous processes for treating wood; the water process, aqua regia, &c.; the soda process, history; preparation of liquors, boiling, washing, recovery, sources of loss; analyses of chemicals and liquors; the sulphite process, history; general principles; the different systems; liquor apparatus; preparation and analyses of liquors; digesters; linings; boiling; subsequent treatment of pulp; waste liquors; recovery. The sulphide and sulphate processes.

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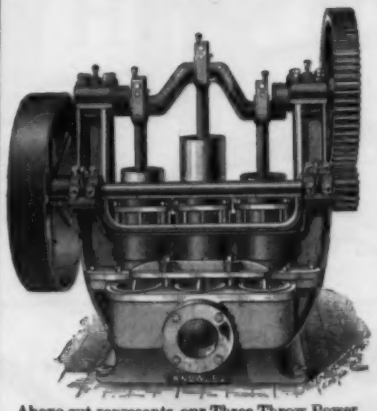

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for this issue of THE PAPER TRADE JOURNAL a report on what was seen in the big establishment.

The plant itself consists of six large buildings of brick, some two and some three stories high, set on a plot of land 230 feet wide by 850 feet long with a good street in front and the railroad running by the doors in the rear. Well graded walks and drives wind themselves around the buildings, while well kept lawns add to the attractiveness of the pleasant site.

The main building is a very extensive structure in the form of the letter T (the top being the front of the building) and sitting back some feet from the street line. Midway of the front elevation is a large square shaped tower which rises two stories above the building giving solidity and character to the architectual features of the big structure. In this tower is a large freight elevator and the doors open upon the street at grade for easy team loading.

In the east end of the building are the company's offices which are large, airy and well lighted. From the general business office the visitors were ushered into the private office connected therewith, being the telephone room, private closets and lavatory. Along the street side of this floor were seen the draughting room, the screen plate room and the tool room, where hundreds of special tools are kept and carefully looked after.

On this floor the paper machines are set up—the part of the building devoted to this purpose being the base of the letter T which runs back to the railroad tracks in the rear of the plant. This space contains three setting up bays, and is 165 feet long; large doors at the ends of the bays open out onto the shipping platform, which is on a level with the floor of a car, and from which cars are loaded.

Here was seen the new paper machine, and some little time was given to its examination. This machine was built for the Nekoosa Paper Company, of Nekoosa, Wis., and will stand beside the paper machine built for the World's Fair which was sold to that company; it is 118 inches wide and has seventeen dryers, besides a felt dryer. Among the new features of this paper machine is the improved arrangement for lifting the top couch roll and the improved housings for the first and second press rolls, which greatly facilitate the lifting of the top rolls and the changing of the wires and felt. These features are said to be original on this machine, and patents have been applied for on these improvements.

The machine is also supplied with a Rice, Barton & Fales drum winder, which is so adjusted that the paper is rolled compactly and evenly, so that perfect rolls can be made.

Along the back side of the machine is an elevated railed walk reached by steps from the floor. The material used in the construction of the machine is of the very best; the castings and shafts are extra heavy, and the workmanship is first-class in every respect, while the finish of the machine shows the care which the company gives to every detail.

The comments made upon this model paper machine by the visitors were most complimentary; and they were certainly well deserved, for a finer machine has never been built in this country, and it is one of which the Rice, Barton & Fales Company may well be proud, as it naturally is.

From an inspection of the machine the visitors were guided through the various shops of the plant, the foundry being next visited. The foundry occupies a building by itself, and is well equipped for heavy work, being liberally supplied with labor saving devices. A noticeable feature in the foundry was the big electric traveling crane of 10 tons capacity with a sweep of 50x225 feet, and having an up and down motion as well. This is said to be the only 10 ton electric traveling crane in Worcester. Narrow gauge railroad tracks run through the foundry for carrying castings, &c.; railroad tracks in fact run everywhere, and through every building, for the quick and easy handling of material.

Passing through the pattern house, which contained many hundreds of pieces of machinery "put up in wood" and representing many thousands of dollars, the visitors entered the machine shop.

The value of the big time clock located in the entrance was explained and then some large copper dryers in process of completion commanded attention. Some one commented upon the solidity of the floor, when it was stated that the floor was made of crushed rock and cement 8 inches thick, so solidly built that the large planers and lathes could be placed anywhere without special foundations.

The engine and boiler room came next in the path of observation. While a 160-horse power steam engine does duty there, a power dynamo and an electric light motor were seen. Electric power is used quite extensively throughout the shop, for advantage is taken of every modern device of science and mechanism whose use conduces to the saving of labor, or to the better performance of work in this extensive plant.

To the uninitiated and to those conversant with the paper mill machinery manufacturing establishments of the country, this big plant of the Rice, Barton & Fales Company is well worth a visit. That the visitors from Boston were pleased with what they saw and considered the day well spent must be admitted from the opinions so generally expressed on their return to the city.

In the course of a week this paper machine will be shipped to its destination, but in the meantime many prominent paper manufacturers have availed themselves of the opportunity to examine the several improvements noted as special features of this model paper machine.

Concerning local trade there is little to be said. Business moves right along from day to day, and those whose lines are well established are getting a fair share of the trade.

J. Richard Carter, of Carter, Rice & Co., voices the opinion of the jobbing trade when he says that business since the first of the year has fallen off considerably. He looks for a quiet summer trade, but feels encouraged to look for a considerable improvement in the fall.

Some city jobbers are even now doing what might be called a good business, considering the times.

Mr. Jenks, manager of Stimpson & Co., reports very good store trade, notwithstanding the dull time, although not fully up to the record of booming years. This house yet controls the local market on the Seneca straw wrapping papers, and there is a very good demand for this line.

J. B. Forsyth, of Stone & Forsyth, says that trade is fair in some lines and brisk in other lines, meaning possibly S. O. S. bags.

Mr. Forsyth is figuring on a trip to Connecticut this week as the guest of L. V. Walkley, when fishing will be the attraction, and between "bites" the new price list will no doubt be discussed.

Col. S. P. Train will carry a party to Bristol, N. H., this week just to try the waters and see what luck is in store for fishermen.

George Pauline, representing Mill No. 682 of the Kearsley Paper Works, Stoneclough, near Manchester, England, was in Boston this week on his regular anuual visit to this market.

Other recent trade visitors were: Colonel More, S. T. Coy and J. W. Flint, of Bellows Falls, Vt.; Stanton Day, of Solon, Me.; Frank Whitehouse, of Brunswick, Me.; O. C. Robertson and C. B. Hopkins, of Hinsdale, N. H.; Willard Everett and W. D. Russell, of Turner's Falls, Mass.; A. N. Mayo, of Springfield, and Chas. Mayo, of Lawrence, Mass.; Oscar Hartwell, of Nashua, N. H.; Mr. Barnett, of Turner's Falls, Mass.; Fred Temple and Waldo Spaulding, of East Pepperell, Mass.; Chas. Chapin, of Springfield, Mass.; Mr. Coye, of Windsor Locks, Conn.; Geo. Nightingale, of Holyoke, Mass.; Mr. Williams, of Worcester, Mass.; Mr. Ramage, of Munroe Bridge, Mass.; J. W. Chalmers, of Camden, N. J.; S. Goldman and K. B. Fulerton, of New York.

At 3:30 to-day the Boston nine and the ball team from Brooklyn will play ball in town; everybody is billed for the South End ball grounds. The Governor of the State will be there; the Legislature and the Senate will adjourn in time to see the game and all of the trade visitors in the city to-day have tickets for the game.

Clerks who have not yet buried all of their relations have another funeral on hand to-day.

As I write these lines a party of three sit by waiting for me to join them for the ball grounds, and as the time for calling game is close at hand I must bring this report to a close. DELESDERNIER.

Holyoke.

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., May 9, 1894.

The business situation does not seem to be improving very much in this city or vicinity. In fact, if the manufacturers expressed themselves without reserve they would say that the past two weeks have been about as dull as any they have experienced since last summer. Many of the mills have been pinched on orders lately, and it would not be surprising to hear of temporary shut downs during the next two months.

Notwithstanding the dullness in the trade prices hold their own remarkably well. Of course there is some cutting now and then to secure business; but this is not to be wondered, at as the manufacturers are desirous of keeping the machinery running if possible.

The stock market has not developed any new features of late. The buying is limited to immediate needs in most cases. Rags were never lower than they are to-day, but the market is dull and spiritless.

The final award of the contract for furnishing stamped envelopes and wrappers for the Post Office Department for four years, from October 1 having been made, the manufacturers in this vicinity will have to abide the verdict. Many have fully believed that the result of the investigation by the Washington authorities of Purcell's responsibility would be that the present contractors would secure a renewal; but it has not turned out as they anticipated. They will watch Mr. Purcell's movements pretty closely to see how he fulfills his contract.

The Holyoke *Transcript* has a full-fledged strike in progress, and a lively and bitter fight is being waged between Proprietor Dwight and the Typographical Union. The trouble arose over the discharge by Mr. Dwight of three printers who had acted as a committee of the union to compel the proprietor to recognize a certain scale of prices for composition. When he declined to allow these printers to return to their cases a strike was ordered and thirty workmen are now out. Meanwhile the *Transcript* is being issued as usual and Editor Dwight promises to fight it out.

The Holyoke *Free Press*, the youngest of the local dailies, has outgrown its present quarters in the Whitcomb Building and has leased rooms on Dwight street for a term of years. The removal will take place about the first of June.

The People's Street Railroad has organized, and W. F. Whiting, of the Whiting Paper Company, has been elected president. The work of laying the rails will begin early next month and the road will cover considerable unoccupied territory.

The friends of John J. Hutton, formerly of this city, received word from Menasha a day or two ago that Mr. Hutton had been drowned at that place. Mrs. Hutton lives in this city. The deceased was about thirty-five years of age, and he was well known here, having been employed in several of the local paper mills. He located in the West about three years ago.

C. E. Taylor, recently superintendent of the Taylor Manufacturing Company's factory, has gone to Chicago to engage in business.

Frank Barber, a well-known contractor, formerly of the firm of Rivers & Barber, died this week. He was formerly millwright for the Newton Paper Company and was later with the George R. Dickinson Paper Company in the same capacity. His health failed two years ago and he was obliged to give up his business.

Another smallpox case was discovered at South Holyoke this week and taken to the hospital.

Several suits have been brought against the Eureka Ruling and Binding Company this week for breach of contract. M. H. Whitcomb sues for $1,000, the American Pad and Paper Company for $2,000, the Parsons Paper Company for $700, and the Chemical Paper Company for $600.

The Riverside Paper Company has decided to add another new washing engine to its outfit in order to meet the necessary demands.

The Davenports, senior and junior, who represent local paper companies on the road, have just returned from a Western business trip, and while at Council Bluffs, Ia., they had an opportunity to inspect a section of the famous Coxey Army.

The Newton Paper Company will hold its annual meeting at the office in this city Saturday afternoon. H.

Western New York.

[FROM OUR REGULAR CORRESPONDENT.]

NIAGARA FALLS, N. Y., May 10, 1894.

Probably one of the most remarkable cases in this country which has developed at Honeoye Falls, N. Y., will create a sensation when the full particulars are made public. Anna B. Neal, of Honeoye Falls, is the owner of a strawboard mill, the company running it being known as the Enterprise Strawboard Company. Two or three years ago Mrs. Neal was approached by certain manufacturers, who desired to lease the mill in order to control the product. This lease was made at a monthly rental of $900 a month for a period of one year. These agents claimed to represent the Independent Paper Company.

The American Straw Board Company, whose headquarters are in Chicago, about a year ago absorbed these leases. The rent of the Neal Mill was paid for the first nine months, when the remittances suddenly ceased. Mrs. Neal now sues for $2,700 three months' back pay; but the most astonishing part of the whole thing is the defense set up in this action. It is a remarkable and unheard of admission in a legal difficulty. It is nothing more nor less than that the sole purpose of the organization of the Independent Paper Company was to restrict the production of the article which it manufactured and thus enhance the market price of strawboard. The defendant in its answer alleges that the contract under which the Independent Paper Company secured the different leases was fraudulent under an act of the Illinois Legislature passed in 1893. The answer further says: "This form of lease was a device adopted by said company and a large number of other manufacturers, including all of the leading houses engaged in that industry, to restrict the production of said strawboard and enhance its price by causing the execution of papers purporting to be leases under which the so-called lessors under the name of rental lessors should receive from this defendant, to whom said leases were to be, and in fact were assigned, or by it guaranteed a certain sum as compensation for entering into an agreement to restrict tha production of strawboards by shutting down their mills."

The inside history as disclosed by this admission shows one of the most gigantic trusts in one particular line of trade ever perpetrated in this country. Boston and Chicago men are responsible for it and it was worked successfully for several years. To control the straw board and box board product was quite an undertaking and prices were kept up to $40 a ton, while now they rule at from $16 to $20 a ton. The trade can readily see how this monopoly or trust, as it should be properly called, forced prices to suit itself. It was covertly backed before it went to pieces by the American Straw Board Company. The hand of the company never appeared in the meetings, yet the news was carried where it could reach its officers' ears. It cost the trust thousands upon thousands of dollars to keep the large number of leased mills shut down, and it is claimed by certain Boston parties that when the American Straw Board Company took up the leases of the trust a year ago it cost that company between $20,000 and $30,000 a month to pay the rentals for these shut down mills. The panic came and the American Company kept its nerve as long as it could and then decided to drop out. Most of its own mills were closed down. The new big board mills coming up knocked the market to "smithereens," and in order to save itself the company has gone back on the leases which it holds. It is a bold thing to do. The law against trusts and all organizations formed to control product and prices is particularly severe in some States, and particularly in Illinois. The American Strawboard Company, however, has protected itself in keeping clear of all matters pertaining to this trust except in respect to these leases. The company claims that the illegality and fraudulent character of these leases vitiate all of them. Mrs. Neal proposed however, to let the courts decide that and has engaged Messrs. Hubbell and McGuire, of Rochester, to prosecute the suit, while Harry G. Danforth, son of Judge Danforth, of the Court of Appeals of this State, is the man who filed the astonishing answer in behalf of the American Strawboard Company.

When the Canadian Minister of Finance, the Hon. Mr. Foster, announced his tariff schedule for the coming year some months or so ago at Ottawa, among the items or productions of his country placed on the free list was wood pulp. It was conceded that Canada could produce wood pulp cheaper than any other country, and yet, to the surprise of the trade on this side, Minister Foster comes out this week with the recommendation that a duty of 25 per cent. be put on wood pulp. This is the old rate, and it goes to prove just what your correspondent advocated and advanced, that the free trade idea would not work for Canada's good. The Hon. Mr. Foster, as an excuse for his recommendation, stated that it was done so that wood pulp could be included in "the standing offer of reciprocity." That is, if the United States would take off its duty on this commodity, then Canada would follow suit. The amendment was agreed on in Parliament and the duty was fixed at 25 per cent. The truth of the matter, as some American pulp manufacturers state, is that wood pulp of superior grade has been shipped from Europe to Canada and undersells the Canadian product. Several secret meetings of the wood pulp mill men were held and it was forced home on Minister Foster that he would have to help them out.

A dispatch to the Toronto *Empire*, the Government organ in Canada, shows which way the wind is blowing in regard to a coming duty on lumber in the rough. It says; "Mr. Thomas Long, of Toronto, and about a dozen members of Parliament had a long interview with Sir John Thompson, the Premier, and made out a strong case for the re-imposition of duty on logs. It was pointed out that 500,000,000 feet of rough timber was annually taken from the Georgian Bay district to Michigan to be used in the pulp mills and sawn into timber, while scores of Canadian mills remain idle. A strong case was made out for the revision of the old policy." From very reliable sources your correspondent has learned that there is a strong probability that the log export duty will be reimposed, and it will be a severe blow to the American pulp mills dependent on their supply of pulp wood from Canada.

Robert Hall, the new superintendent of the Riordon Paper Mills, at Merritton, Ont., is an Englishman who is said to be a thorough, first-class paper maker. He came from England to accept this position, and was in charge of a large mill in the old country. W. E. T.

Northern New York.

[FROM OUR REGULAR CORRESPONDENT.]

WATERTOWN, N. Y., May 10, 1894.

The water power question in this part of the State is now receiving no little attention, and the allied manufacturers who rely on this supply along the Black River are determined to hang together. Attention has been brought to this water power and the new Stillwater dam in the Black River by the claim against the State by Dr. W. Seward Webb, the well-known president of the Wagner Palace Car Company and large landed proprietor in the Adirondack region. Dr. Webb has filed a claim for $184,350 damages to his land in Herkimer and Hamilton counties in townships 5, 42, 43, 38 and 37, known as the John Brown tract. These damages are on account of water and are well founded. They were occasioned by the construction and reconstruction of the Stillwater dam and reservoir by the State. It is said that the State Board of Claims will hold a session in Utica to consider this claim on May 28.

An important meeting of the water power owners along the Black River was held last Saturday in this city, pursuant to a call issued by Secretary F. W. Babcock. An informal association was formed last September for the purpose of securing the passage of the law providing for four commissioners to take charge of the reservoir dams by the State on the Fulton chain of lakes at Stillwater, on the Beaver River. At that meeting it was proposed to make a permanent organization, and the meeting last week was called with that end in view. Among those present were many of the pulp and paper manufacturers of this section of the State, including B. B. Taggart, of Felts Mills; H. C. and D. E. Dexter, of Black River; E. B. Sterling, of Ontario Mills; Henry Binninger, of Dexter; C. R. Remington, of this city, and others. President A. D. Remington was absent, and Dr. F. E. Robinson, of Carthage, presided. A report was made by the committee as to what had been done by it since the September meeting, which had resulted in the passage of the new law creating the commission and the appointment of the commissioners by Governor Flower. The meeting of the commissioners and the appointment of lock and dam tenders THE PAPER TRADE JOURNAL has announced.

George C. Sherman, of the committee on permanent organization, reported on behalf of that committee a proposition to incorporate the organization as the Black River Power Association. He also presented a set of proposed by-laws.

In brief the plan proposed by the committee on permanent organization is that the association shall have five directors, four of whom shall be the regular power commissioners referred to, and the fifth to be the president, or in his absence one of the vice-presidents.

It was shown to the association that a by-law was drawn providing for the removal and re-appointment of the commissioners by the Governor at his pleasure.

This organization, which it was expected would comprise every power owner along Black River, ought to designate the commissioners from time to time, but the appointment must necessarily rest with the Governor. Therefore the plan of organization proposed that from year to year this association should recommend to the Governor the names of four men whom it desired to become commissioners by formally and regularly electing these four men as directors of the association. It was thought that any Governor would undoubtedly acquiesce in the wishes of the association formed as proposed with the best interests of all at heart.

The report after one or two minor changes was adopted by a unanimous vote, and the association organized at once under the new by-laws, electing the following named officers: A. D. Remington, president; Hon. Henry Binninger, of Dexter; H. C. Dexter, of Black River; Dr. F. E. Robinson, of Carthage, vice-presidents; F. W. Babcock, secretary and treasurer.

The secretary was directed to perfect the incorporation of the association, and an assessment of 3 cents per horse power was ordered to pay for expenses already incurred in framing, securing and passing the recent legislation. These expenses, which amount to about $300, have been met by individuals, and it was agreed that the association should pay them, assessing itself upon some equitable basis. The directors were requested to ascertain the power used by each owner along the river, and assess accordingly.

A resolution was passed calling the attention of the Governor to three private bills, which went through both houses, and are now in his hands for approval or rejec-

(*Continued on page 447.*)

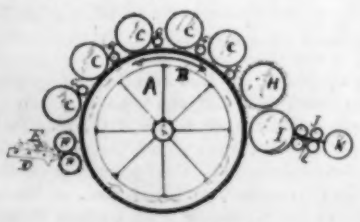
New Inventions—XXXIV.

[WRITTEN FOR THE PAPER TRADE JOURNAL.]

By Geo. Damon Rice.

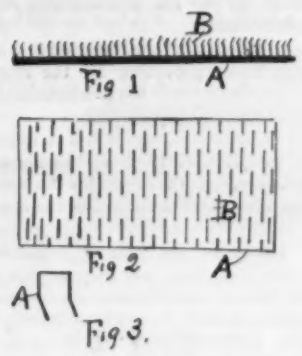
Experiments which have been under way for the purpose of establishing the feasibility of using paper in the manufacture of card clothing are so far advanced that it seems practicable to give an account of the operation. Card clothing is used in covering the cylinders and rolls of the cotton, woolen, worsted and jute cards. There are hundreds of cotton cards in operation in the great cloth manufacturing centres of New England. In the South, in the State of Philadelphia and in New York there are thousands of sets of cards, all of which are covered with canvas or leather card clothing in which the teeth which do the carding are set. Leather card clothing works very well, but it is costly. The card clothing used in covering a single card amounts to considerable of an item. Men have attempted to reduce the cost by substituting cloth, canvas and other materials, but leather, thus far, seems to be most used. The latest now appears to be the substitution of paper for leather. Should the attempt prove successful (and there is every reason at present to believe that it will) quite a large field will be opened for the consumption of paper. Vast quantities of leather are daily consumed by the great card clothing factories at Worcester, Mass., and other points.

A cotton or woolen card is a machine with which paper mill men are not familiar. Here is a cut of a card.



A Cotton Card.

In this view the cylinders and rollers, which it is proposed to cover with paper clothing instead of leather or canvas, are exhibited. A is the main cylinder, and as it is about 60 inches wide and has a diameter of something like 70 inches, it follows that there is considerable surface on it. Next are the rollers C; these, too, are covered with clothing; then there are the minor rollers, F, F, and those marked G; then come the rollers H and I, all of which require a surface of card clothing, hence there are many square yards to be covered. The object of the machine is to open the cotton and prepare it for spinning. The passage of the cotton through the rollers is accompanied by a continual opening and separating by the steel teeth in the clothing and a disentanglement of the fibres results. The stock is fed in at E and comes out in strands ready for spinning at K. An illustration of the card clothing is shown next.



Card Clothing.

In this there are three figures. Figure 1 is a side view of a piece of card clothing made from paper. The paper is indicated by the dark line A, the steel teeth marked B are set in the paper in regular rows as shown. A surface view of the under side of the clothing is presented in Fig. 2, in which the paper foundation is indicated by A, and the steel teeth are shown by B. It can be seen that the teeth are set in regular rows. A machine does this. In Fig. 3 one of the steel teeth is shown, and by examining this the reader will note that the shape is like that of a staple, so that the two ends can be pushed into the clothing and project from the other side. When the clothing is put on the cylinders of the card the points of the teeth project outwardly, and engage with the fibre in the carding process.

The operation of making the paper clothing for use in carding is as follows: Paper pulp of a common kind is used and run off into thick sheets about 10 inches wide. These sheets are toughened by being subjected to heavy pressure, after which they are run through rollers and smoothed, a good, even surface being required. The stock, while in pulp form, is given an application of certain compounds, which, as far as the writer has been able to ascertain, consist of certain proportions of a glutinous matter, in which coarse hair has been injected. This hair-like substance is what gives great toughness and elasticity to the paper sheets. Next the sheets are trimmed down in the ordinary way and run into the teeth adjusting machine, and the teeth are put in. Then the clothing is ready for use. It would seem that great durability as well as elasticity can be obtained in the use of this paper clothing on cards. The chief features are, however, the cheapness and the non-stretching qualities. The paper clothing is far cheaper than that made of leather, and then leather clothing stretches so much that it has to be readjusted two or three times before it is well stretched. Each resetting of the clothing requires days of time and much labor. Paper clothing once put on is set for good.

Electro Chemistry in the Paper Mill.

First Paper—Introductory.

[WRITTEN FOR THE PAPER TRADE JOURNAL.]

By James F. Hobart.

In the series of papers just concluded the installing and operation of an electric plant suitable for the paper mill was discussed quite fully, except for electrolysis, bleaching, &c. In order to properly proportion and install electric mechanism for these purposes the requirements of the situation must first be considered.

An electric plant is needed for making caustic soda and chlorine.

How big a plant is needed? How much current? How many volts pressure? These questions must be answered before the proper dynamo can be chosen.

Again, before this last problem can be solved we must investigate the electrolytic process, and from its requirements determine the pressure and current required, and we must go yet further back. Before electro chemistry can be comprehended we must study the ordinary chemical status of the materials to be used, and ascertain what reactions must be brought about in order to secure the desired results.

In this problem common salt (chloride of sodium) being the principal substance to be treated, our investigations may well be confined to that salt alone. Any standard work on chemistry will tell us that the symbol for chloride of sodium is NaCl. The first Na means sodium, the second member, Cl, represents chlorine. And equal parts of the two combine to form the compound NaCl. This may be proved as follows: Procure some caustic soda (NaOH) and make a solution in the proportion of 60 grams of the caustic soda in 500 cubic centimetres of water. Put in a glass dish a certain quantity, say 5 cubic centimetres of the solution, and add, a little at a time, 5 cubic centimetres of muriatic acid (HCl), also called hydrochloric or chlorhydric acid; test with litmus paper, and if the chemicals are pure the paper should show neither a red nor a blue reaction, but the solution will be strictly neutral.

If, however, the chemicals are not up to strength, a little more of one or the other may be needed, so that if the blue litmus paper shows red put in another drop of the NaOH solution; if red paper turns blue add a drop of the HCl. Having adjusted the quantity of each so that both red and blue strips of litmus paper will remain immersed in the solution for one minute without visible change of color, the contents of the dish may be evaporated, and pure salt will be the result.

In this example chlorine and sodium have been united and chloride of sodium is the result. The chemists will express the operation in a single algebraic formula, thus: $Na + Cl = NaCl$; according to chemical reaction: $NaOH + HCl = H_2O + NaCl$.

Having shown that common salt consists of caustic soda and chlorine, the next step is to find a way of separating the two elements that they may be applied to paper making. To recover the chlorine from the salt we can treat it with sulphuric acid, causing the chlorine to unite with the hydrogen of the sulphuric acid, to form muriatic acid, and the soda to unite with the sulphur and oxygen of the acid, forming sodium sulphate. The reaction is as follows:

Chloride of sodium + NaCl.
Sulphuric acid = H_2SO_4.

then:

$2\,NaCl + H_2SO_4 = Na_2SO_4 + 2HCl$.

Na_2SO_4 = Sodium Sulphate.
HCl = Hydrochloric Acid.

The hydrochloric (muriatic) acid could be made useful if it were possible to drive off its hydrogen, thus: Muriatic acid = HCl—H = Cl = Chlorine; but this cannot easily be done, because of the great attraction of chlorine for hydrogen, its affinity for that gas being very strong. Therefore, the chlorine must be obtained directly from salt by adding some other substance which will cause the hydrogen to be decomposed. There is plenty of oxygen in the air, and it seems at first sight that when the acid is exposed to the atmosphere the oxygen should combine with the hydrogen of the acid, forming water and chlorine, thus: $2HCl + O = H_2O + 2Cl$; but it will not, the affinity of chlorine and hydrogen being too great. It can be done, however, on a large scale by well-known processes now employed for the manufacture of caustic soda and bleaching powder. As these processes do not involve the use of electricity, their details will not be gone into.

Caustic soda is known as sodium hydroxide, or sodium hydrate (NaOH). It may be obtained by boiling carbonate of soda with slaked lime. (Calcium hydroxide $Ca(OH)_2$). Expensive and troublesome treatment is required to transform the sulphate of soda into caustic soda. Virtually it must go through the entire process of "recovering black-ash," as it is called in the mill. To convert soda sulphate into caustic soda the first step is to convert the sulphate into sulphide. To do this the sulphate is roasted or heated with charcoal, during which process it loses its oxygen, which combines with the carbon, forming carbonic acid, which escapes into the atmosphere, leaving the sulphide behind. In studying this process the sulphide (Na_2S) of sodium, must not be confounded with the sulphite (Na_2SO_4). The reaction noted above is as follows: $Na_2SO_4 + 2C = NaS + 2CO_2$. If the sulphide is heated with calcium carbonate (carbonate of lime = $CaCO_3$), sodium carbonate and sulphide of lime (calcium sulphide = CaS) are formed, according to the following formula: $Na_2S + CaCO_3 = Na_2CO_3 + CaS$. The conversion of the sulphate into the carbonate may be expressed by a single equation: $Na_2SO_4 + 2C + CaCO_3 = Na_2CO_3 + CaS + 2CO$.

The calcium sulphide (CaS) is insoluble in water, so that the soluble sodium carbonate may be worked out and recovered by evaporation. By the electrolytic process salt is separated directly into its component parts. When the terminals of an electrical circuit are placed in a vessel of water that fluid (if there is current enough) is decomposed into its component parts—oxygen and hydrogen. When electricity is passed through a solution of salt the sodium and chlorine are separated, one going to either electric terminal, and the reaction is: NaCP = Na + CP.

In order to thoroughly comprehend this matter so as to be able to properly design the necessary electrical apparatus, it is desirable that the electrical actions and reactions shall be fully sought out and understood, that the "reason why" and the "way how" may be fully brought to light. To do this comprehensively we must go to the very bottom of things and wrestle with the atoms of matter composing the soda.

We are told that 1 ampere of current in one second of time will throw down or deposit .00023873 grams of sodium; also, that in the same length of time with the same quantity of current, there will be liberated .000010384 grams of hydrogen. From these data (the hydrogen) we can easily calculate how much current will be required to liberate any given quantity of any required element in any period of time; but to comprehend the matter to its fullest extent we must study how the electrolysis is brought about, and in the next paper that important point will be discussed.

(To be continued.)

The Typothetæ of New York.

On May 1 the Typothetæ of New York removed from No. 19 Park place, where it had been located for eight years, to the Downing Building, No. 106 Fulton street, New York. Its new quarters are on the fourth floor of the building and comprise two large rooms, well lighted from front and rear and on the side, and handsomely furnished with solid oak furniture, leather covered.

The society met for the first time in the new rooms on Tuesday, May 8. The gathering was of a social as well as of a business character and was preceded by an ample luncheon, in which fluids as well as comestibles of a solid nature were conspicuous by their abundance. The members of the Typothetæ, with a number of invited guests, enjoyed the introductory exercises, after which the regular monthly meeting of the society was held, Douglas Taylor, first vice-president, taking the chair.

Mr. Taylor congratulated those present upon their elegant surroundings, upon the comforts and conveniences of the rooms, and expressed on behalf of the organization thanks to the committee in charge of the arrangements for removal for the efficiency it had displayed. He called attention to the fact that certain donations had been made and that there was room for still further additions to the furnishings desired. He said that to insure the best results from an association like this the co-operation of many other solvent printers in the city of New York was necessary, and that the Typothetæ will not have fullfilled its duty until it has placed on its rolls the names of many more members. He urged upon the new committee on membership to exert itself to this end.

The committee on rooms, through Wm. Pinkney Hamilton, its chairman, reported that it had leased the rooms now occupied by the Typothetæ for the term of five years from May 1, 1894; that it had expended $600 in fitting them up and that the whole of this amount had been secured without drawing on the treasury of the society.

C. Bowyer Vaux, of the American Lithographic Company, who had been reported on favorably by the committee on membership, was vouched for and elected as a member.

Business Suggestions.

Among the many useful suggestions contained in a little trade pamphlet called "Pointers on Mail Orders," the following are of special importance and should be posted up in every counting room in the country:

Write only on one side of a sheet of paper. Well written mail orders are never copied, but are filled from the original order. Where orders are written on both sides of a sheet it necessitates their being recopied—recopying is one cause of delay.

Write only one item or size on a line.

Do not crowd your writing on a sheet. A crowded order is hard to read.

Nothing but the order and instructions in regard to shipping and filling orders should be on the order blanks.

Nothing causes more delay in attending to the customer's wants than their writing about several subjects on one sheet.

If dealers write in regard to orders, remittances, quotations, &c., on different sheets these letters will then immediately on receipt be sent to their proper departments, to be answered on the day they are received. Each part of such letter should be complete in itself, as if no other letter had been written at the same time to the house on another subject.

Another point well worth mentioning is that mail orders are a voluntary expression of confidence in a house, and should consequently be given the most prompt attention and command rock bottom prices always.

Wood Pulp, Soda and Sulphite,
IMPORTED BY
G. RAU, TIMES BUILDING, New York.
SOLE AGENT FOR THE U. S. AND CANADA:
ROZÈS AINÉ & FRÈRES, Agen,
Well-known Packers of Linens and Cottons.

1892 1894

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COMPARATIVE PRODUCTION
For ONE DAY:
May 1st, 1892, ... 1,199,000
May 1st, 1894, . . . 2,591,000

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FOR THE RESISTANCE OF ACIDS AND ALKALIES.
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THE AJAX METAL CO., INCORPORATED, PHILADELPHIA, U. S. A.
WE INVITE CORRESPONDENCE.

ESTABLISHED 1893. INCORPORATED 1891.
STANDARD STAVE & COOPERAGE CO.
MANUFACTURERS OF
CEDAR, CYPRESS, PINE OR OAK
RESERVOIR TANKS
Of any Shape or Capacity, for
PAPER AND PULP MILLS.

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THE MERRIMAC POROUS ALUM is unsurpassed for purity and good results.
All other grades of Alum for paper makers' use and for filtering purposes. Address
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Imports and Exports.

IMPORTS AT NEW YORK.

FOR THE WEEK ENDED MAY 4, 1894.

An. Colors..	350	$22,569	Paper.....	537	$23,206
Alum.....	—	—	Steel Pens...	1	1
Alum's Cake	—	—	Stationery...	1	63
Bl. Powders	606	10,604	Slate Pencils	1	34
Soda Ash...	7,076	20,244	Clay.....	—	8,700
Soda, Caus.	700	11,201	J'te B'ts, &c.	13,415	59,084
Soda, Sal....	420	1,004	P. Hangings	33	1,558
Soda, Hypo.	—	—	P'p'r Stock..	4,861	36,012
Ultramarine	15	43	Terra Alba..	—	—
Books.....	333	35,081	Waste.....	—	—
Newspapers.	207	10,487	Wood Pulp..	2,376	17,141
Engravings.	54	3,859			
Ink.....	216	1,365			
Lead Pencils	3	1,071	Totals....	31,295	258,327

Imports General Merchandise for the week ended May 4, 1894.....$7,250,426

IMPORTS OF PAPER STOCK AT NEW YORK.

FROM JANUARY 1 TO MAY 9, 1894.

Whence Imported.	*Rags.*	*Old Papers.*	*Chemical Fibre.*	*Ground Wood.*	*Manilla Stock.*
	Bales.	Bales.	Tons.	Tons.	Bales.
Alexandria...	1,249	....	....	....	....
Antwerp.....	264	259	632	....	36,42
Aspinwall....	90	....	....	....	....
Bordeaux.....	230	....	....	....	....
Bremen.....	532	....	....	....	3,907
Bristol.....	....	....	....	....	1,950
Buenos Ayres.	36	....	...	....	....
Calcutta.....	....	....	....	....	2,797
Cent. America	60	....	....	....	....
Christiania....	....	....	396	....	474
Copenhagen..	353	....	479	....	761
Dublin.....	....	186	....	....	....
Dundee.....	....	....	....	....	611
Dunedin.....	....	....	....	....	183
Fiume.....	....	....	90	....	....
Geestemunde.	252	....	....	....	1,309
Genoa.....	....	....	...	....	3,256
Glasgow.....	229	77	....	....	77
Gothenburg..	....	....	52	....	....
Hamburg.....	749	103	443	....	2,381
Hiogo.....	7,119	....	....	....	....
Hull.....*a*	1,630	128	844	....	6,336
Kobe.....	27,985	....	....	....	....
Leghorn.....	1,520	....	....	....	....
Leith.....	....	150	....	....	....
Liverpool.....	166	740	....	....	9,881
London.....	1,800	906	20	....	6,670
Marseilles....	86	....	....	....	473
Nassau.....	36	....	....	....	....
Newcastle....	....	73	....	....	1,406
Rio.....	20	....	....	....	....
Rotterdam....	337	....	384	....	3,960
Southampton.	....	....	....	....	160
Stettin.....	2,054	....	493	....	4,840
Trieste.....	....	....	49	....	....

a. Including 347 bales cotton waste.

NEW YORK IMPORTS.

FROM MAY 2 TO MAY 9, 1894.

Paper Stock.

Atterbury Brothers, Lepanto, Antwerp, 82 bs. rags.

R. Helwig, Noordland, Antwerp, 108 tons chemical fibre.

Castle & Gottheil, by same, 185 bs. bagging.

Burgass & Co., by same, 48 bs. bagging.

E. Hatton & Co., Marie Siedenberg, Bremen, 1,077 bs. bagging.

Perkins, Goodwin & Co., by same, 293 bs. bagging.

Jessup & Moore Paper Company, Affesione, Genos, 738 bs. bagging.

R. F. Downing & Co., by same, 132 bs. bagging.

G. Rau, State of California, Glasgow, 76 bs. rags.

Darmstadt & Scott, by same, 19 bs. papers.

F. Salomon & Co., Amalfi, Hamburg, 130 bs. manillas.

F. Salomon & Co., Glenreck, Hamburg, 197 bs. rags.

G. Rau, Buffalo, Hull, 228 bs. rags, 538 bs. bagging.

Lewy Brothers, by same, 14 bs. bagging.

James Pirnie, by same, 98 bs. bagging.

J. W. Mason & Co., by same, 151 bs. manillas.

F. Bertuch & Co., by same, 15 tons chemical fibre.

Castle & Gottheil, Olympia, Leghorn, 250 bs. rags.

Jessup & Moore Paper Company, by same, 50 bs. rags.

Train, Smith & Co., Critic, Leith, 53 bs. papers.

James Pirnie, Cevic, Liverpool, 102 bs. manillas, 125 bs. bagging.

J. W. Mason & Co., by same, 137 bs. manillas.

Kugelmann & Co., by same, 211 bs. bagging.

R. H. Overton & Son, by same, 171 bs. bagging.

James Pirnie, Berlin, London, 170 bs. bagging.

E. Hatton & Co., by same, 126 bs. bagging,

E. Hatton & Co., New York, London, 609 bs. bagging.

F. Salomon & Co., by same, 204 bs. bagging.

G. Rau, by same, 69 bs. bagging.

Lewy Brothers, Virginia, Stettin, 1,136 bs. bagging.

G. Rau, by same, 53 tons chemical fibre.

Paper.

John Hunter, Buffalo, Hull, 13 cs.

L. De Jonge & Co., Noordland, Antwerp, 35 cs.

L. C. Wagner & Co., by same, 3 cs.

M. Scherer, Runic, Liverpool, 3 cs.

F. B. Vandergrift, Normannia, Hamburg, 14 cs.

J. Munroe & Co., Virginia, Stettin, 27 cs.

Eckmeyer & Co., Saale, Bremen, 6 cs.

Cabot, Ray & Co., Amsterdam, Rotterdam, 80 cs.

G. Gennert, by same, 15 cs.

Neuss, Hesslein & Co., by same, 23 cs.

E. & H. T. Anthony & Co., by same, 26 cs.

The A. Haug Company, by same, 6 cs.

Dennison Manufacturing Company, Umbria, Liverpool, 56 cs.

Favor, Ruhl & Co., by same, 2 cs.

F. W. Stemmler & Co., La Champagne, Havre, 1 cs.

Kaufmann Brothers, by same, 8 cs.

May Brothers, by same, 5 cs.

Henry Tilge & Co., by same, 2 cs.

American Trading Company, by same, 30 cs.

A. Kern & Co., Waesland, Antwerp, 7 bs.

Kupfer Brothers, by same, 8 cs.

L. C. Wagner & Co., by same, 2 cs.

American Artistic Company, by same, 10 cs.

Dinglestedt & Co., Bohemia, Hamburg, 25 cs.

F. J. Emmerich & Co., by same, 2 cs.

T. C. Pollock, by same, 2 cs.

A. V. Benoit, Bohemia, Havre, 93 rolls.

BOSTON IMPORTS.

FROM MAY 3 TO MAY 9, 1894, INCLUSIVE.

Paper, &c.

Wm. Guild & Co., Pavonia, Liverpool, 5 bs. periodicals.

Gregory & Brown, by same, 2 cs. paper hangings.

J. Dickinson & Co., by same, 9 cs. paper.

Order, by same, 8 cs. tissue paper.

Austin & Robertson, Carlisle City, London, 2 cs. paper, 3 cs. envelopes.

Paper Stock.

Train, Smith & Co., Scandinavian, Glasgow, 53 bs. waste paper, 31 coils manillas.

True & McClelland, by same, 165 bs. waste paper.

Train, Smith & Co., Sachem, Liverpool, 100 bs. waste paper, 92 bs. manillas.

C. A. Cheney, by same, 10 bs. rags.

M. A. Ring & Sons, by same, 31 bs. manillas.

R. H. Overton & Son, by same, 270 bs. manillas.

Warren & Co., by same, 20 bs. rags.

C. A. Cheney, Angloman, Liverpool, 179 bs. manillas.

True & McClelland, by same, 49 bs. rags.

Horace Dutton & Co., by same, 115 bs. waste paper, 17 bs., 42 coils manillas.

R. H. Overton & Son, by same, 97 bs. manillas.

Wheelwright Paper Company, Carlisle City, London, 155 bs. waste paper.

Crocker, Burbank & Co., by same, 80 bs. waste paper.

True & McClelland, by same, 68 bs., 164 coils manilas, 286 bs. flax waste.

Horace Dutton & Co., by same, 126 bs., 460 coils manillas.

Bleaching Powder.

J. L. & D. S. Riker, Angloman, Liverpool, 173 cks.

J. L. & D. S. Riker, Sachem, Liverpool, 367 cks.

Fuerst Brothers, Pavonia, Liverpool, 36 cks.

Caustic Soda.

Edward Hill's Son & Co., Angloman, Liverpool, 200 drums.

Soda Ash.

Warren & Co., Angloman, Liverpool, 37 cks.

Warren & Co., Sachem, Liverpool, 85 cks., 200 bags.

Wing & Evans, Pavonia, Liverpool, 44 cks., 2,000 bags.

Soda Crystals.

Warren & Co., Sachem, Liverpool, 140 bbls.

Warren & Co., Angloman, Liverpool, 140 bbls.

Sizing.

Train, Smith & Co., Sachem, Liverpool, 238 bags.

C. A. Cheney, by same, 76 bags.

Thomas Groom & Co., by same, 70 bags.

Baeder, Adamson & Co., by same, 75 bags.

C. A. Cheney, Angloman, Liverpool, 314 bags.

J. W. McClintock, Pavonia, Liverpool, 86 bags.

PHILADELPHIA IMPORTS.

FOR THE WEEK ENDED MAY 5, 1894.

Paper.

Keystone Blue Paper Company, Missouri, London, 25 cs.

A Hartung & Co., Remus, Hamburg, 44 cs.

Chas. Beck Paper Company, by same, 25 cs.

Soda Ash.

Brown Brothers & Co., Corean, Glasgow, 66 cks.

Same, British Prince, Liverpool, 1,080 bags.

Order, by same, 344 cks., 1,300 bags.

Soda Crystals.

Order, British Prince, Liverpool, 140 bags, 2,000 bags.

J. Keefe, Jr., by same, 167 bbls.

Bleaching Powder.

Order, British Prince, Liverpool, 72 cks.

Salt Cake.

Brown Brothers & Co., British Prince, Liverpool, 183 cks.

Venetian Red.

Yelton, Sibley & Co., British Prince, Liverpool, 100 bbls.

Sulphur.

Order, British Prince, Liverpool, 601 bags, crude.

EXPORTS of Paper, &c., from New York for the Week Ended May 8, 1894.

BOOKS, cases, to Central America, 6; Bremen, 8; Liverpool, 5; Hamburg, 4; London, 32; Southampton, 1; Trebizond, 1; Colombia, 22; British West Indies, 4; British Honduras, 2; British Australasia, 9; China, 1; Cuba, 2; French possessions in Africa, 2; Havre, 7; Leipsic, 4; Mexico, 25; San Domingo, 1.

PAPER, to Cuba, 778 pkgs.; British West Indies, 137 pkgs., 55 rolls; Central America, 39 cs.; Venezuela, 4 cs.; Colombia, 17 pkgs.; Dutch West Indies, 2 pkgs.; London, 463 cs.; Brazil, 423 pkgs.; Liverpool, 66 cs.; Argentine Republic, 22 pkgs.; Bremen, 1 cs.; British Honduras, 89 pkgs.; Canada, 7 pkgs.; Glasgow, 50 pkgs.; Hayti, 26 pkgs. Rotterdam, 1 cs.; Hamburg, 11 cs.; Leipsic, 1 cs; San Domingo, 157 pkgs.; Leith, 70 pkgs.; Lisbon, 2 cs.; Southampton, 1 cs.; Porto Rico, 100 cs.

STATIONERY, cases, to Cuba, 19; Colombia, 11; London, 20; British West Indies, 4; British Australasia, 23; Central America, 6; Venezuela, 10; French possessions in Africa, 1; Glasgow, 1; Hamburg, 9; Argentine Republic, 12; Brazil, 26; Bremen, 1; New Zealand, 2; British Guiana, 5; British Honduras, 4; Copenhagen, 1; Dutch West Indies, 5; Ecuador, 2; Hayti, 8; Liverpool, 4.

STRAW BOARD, cases, to Brazil, 1; Cuba, 6.

PAPER BOXES, cases, to Leith, 79.

AGGREGATES AND VALUES.

Paper, reams.....	—	—
Paper, pkgs.....	2,620	$11,660
Paper, cases.....	549	6,975
Books, cases.....	137	9,124
Stationery, cases.....	185	11,809
Rosin, bbls.....	3,487	12,242
Totals.....	6,978	$51,819

Exports General Merchandise for the week ended May 8, 1894..... $8,782,413

Economical Use of Coal.

Henry Bland concludes an article in the *Safety Valve*, on the following directions for using the best grades of soft coal:

Moisten the coal slightly when placed in the fire room for use. The result is a more complete combustion of the gases liberated from the coal when in the furnace.

Firing should always be made by placing the coal in the front of the furnace, filling, or partly filling the doorway.

When there is a good draft the furnace door should be perforated, the holes being not over half an inch in diameter, or the door left slightly ajar for a short time after firing. A supply of fresh air in finely divided streams can be introduced over the fire surface by any convenient method with advantage.

When the fire bed requires a supply of fuel, place a light three iron hoe against the upper portion of the coal previously placed in the front of the furnace, and now partially coked and ignited, and push it over the fire, spreading it evenly upon any portion as required. The result is a constantly bright and clear fire surface.

Immediately after the distribution of a charge of coal over the fire, put a fresh charge in front of the furnace, as before, for the next firing.

Avoid stirring up the mass of burning coal, using the slicing bar sparingly. When the surface becomes cooled by the union of the coke, run the bar beneath the fire mass and lift it sufficiently to break it up. A free admission of air will thus be secured and an active combustion of the fuel, while the fire body will not be sufficiently disturbed to allow of a shifting of its finer particles through the grate bars.

By observing the above rules, it will be found that the labor involved in the care of the fire is not greater than when anthracite is used, while the waste of coal will be less.

The mass of coal in active combustion should never exceed 10 inches in thickness, and 8 inches will be found sufficient in most cases. More than 10 inches is useless and wasteful.

An even surface of fuel should be maintained over the entire grate of surface. The practice of putting coal in a heap in the centre of the fire is wasteful.

There is no necessity for cleaning fires oftener than twice in twenty-four hours when continuous heavy fires are used, while one cleaning in twenty-four hours will be found sufficient with moderate fires.

To bank the fire for the night cover the surface with fine coal. In the morning spread the mass, and a steaming fire will be produced in a few minutes.

For exceptional conditions of course further directions are required.

Charles E. Bartholomew, publisher, who was charged with aiding and abetting Augustus Hagan, a clerk in the American Exchange Bank, New York, in embezzling the funds of the bank, pleaded guilty on Wednesday before Judge Benedict, in the criminal branch of the United States Circuit Court.

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IMPORTERS OF AND DEALERS IN
—ALL DESCRIPTIONS OF—
Paper Makers' Supplies,
24 FEDERAL STREET, BOSTON,
BRANCH OFFICES: 36 BEEKMAN STREET, NEW YORK. 21 ST. MARY AXE, E. C., LONDON. EDMUND ST. CHAMBERS, LIVERPOOL.

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WHOLESALE DEALERS IN AND PACKERS OF
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The Paper Trade Journal.

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Boston Office—A. L. DELESDERNIER, General Manager, 67 FEDERAL STREET, BOSTON, Mass.

NEW YORK: SATURDAY, MAY 12, 1894.

ACKNOWLEDGMENT of the good quality of American news paper will be found in a letter from Great Britain, which appears in another column. Our English correspondent appears to have "caught on" also to American slang, which he uses euphuistically and effectively.

WITH four tariff bills in sight and perhaps two or three more in petto, we have an embarrassment of legislation. All of these are framed to pull down with no corresponding building up, except that of trusts and private fortunes. Expediency—or something else—and not principle seems to be the guiding motive in shaping the measures now under discussion. The courage of conviction is wanting.

AGAIN there is a lull in paper making inventions. The times are out of joint and the opportunity for bringing out anything new, however valuable, is not of the best. Yet the delvers into the mysteries of electrical disassociation are not idle; they are pursuing their ends with a steadfastness which impresses us as the outcome of conviction. They will succeed. Of that we feel certain, and the paper trade may well wish that the process and the hour are near at hand.

THE annual meeting of the American Paper Manufacturers' Association which was to have been held at Chicago fell through last year. What has been done by this organization or its representatives since then? We think that in view of the tariff agitation it should have been vigilant and active to look after trade interests in respect to legislation; but perhaps this has been done by influences sub rosa. What we want to know is whether the association will hold a meeting this summer, and if so, where? If there is to be a gathering it is about time to notify the trade.

AT a meeting of fire underwriters held in New York this week some figures of interest were given. It was stated the losses by fire last year were $167,000,000, and that the losses paid were $90,344,075. This discrepancy shows great carelessness or indifference on the part of many people. The increasing use of electricity points the way to a great increase in fire losses. In fact this source of danger is called the "present greatest enemy" of the underwriters, and for this reason the need of stringent rules for perfecting the installation of electric plants for whatever purpose is emphasized. Too great care in electric light and other installations, wiring, &c., cannot be had, and the proper and necessary steps for perfecting such installations should be taken on the lines set forth in recent articles which have appeared in THE PAPER TRADE JOURNAL.

WHEN Japan fairly gets into the stride of modern civilization and industrial progress she will be likely to make things awkward for a good many people among the manufacturers of Europe and America. We base this prediction—accepting as fact that there is no likelihood of strikes or demands for high wages—on the circumstance that the cost of labor in the Chrysanthemum Kingdom is, for an enlightened country abnormally, low. Japanese mill owners can get all of the labor that they want at 4½ cents a day, and this, with coal at $1.90 a ton, impresses us with the idea that, with the cost of production reduced to almost nothing in these very important items of manufacturing expenditure, the Japanese "have the bulge," so to speak, on those with whom they may enter into competition.

AN attempt is being made to induce Congress to advance the rates of postage on second-class matter, under which classification newspapers are included. There is well grounded suspicion that the Post Office Department is back of this movement, and that it thus hopes to provide for a surplus postal revenue as against a deficiency resulting from broad expenditures in other directions. There has been an intimation also that the attack on rates for second-class matter emanates from the advocates of one cent letter postage and it is said that petitions have been circulated to this end for the purpose of influencing Congress. We have always advocated the lowest possible rate for first-class matter and believe that letter postage should be reduced at least one-half, even if a further deficiency in the postal revenue should result. It may be regarded as morally certain that ere long the loss thus entailed would be more than made up. It is unfair, however, to attempt to gain one measure by imposing burdens upon the other.

WHAT the people want and are willing to pay for they will have in the end, whether it is penny postage for letters, a more comprehensive parcels post service or anything else; but it is doubtful if they will deliberately and knowingly abridge important advantages in one branch of the service in order to gain something not vitally needful in another. In regard to the postal deficiency a contemporary makes the following point which deserves the consideration of both legislators and people: "In spite of this deficiency, however, the postal business was really self sustaining. The amount of postage which would have been realized last year from free mail matter embracing official letters and supplies and franked matter — documents, pamphlets, seeds, &c. — if charged the same as private matter, is $7,173,364. The expense of handling free mail matter from all other departments than the Post Office Department does not properly stand against the postal business. The cost of handling the official mail from the departments of State, Treasury, War, Navy, Interior —with its enormous pension business— Agriculture and Justice and all franked matter, should be provided for by an appropriation by the Government. Making due allowance for this the postal business was more than self sustaining."

THE financial situation seems to point to another bond issue. The gold reserve is again below the limit fixed by law, and promises to go much farther, as the bankers seem to have fully made up their minds not to release any of their own gold. Revenue receipts continue to fall far below Government expenditures, and will do so as long as the tariff remains an unsettled question. It is hardly possible for the Government to practice greater economy, so that until business revives it must continue to spend more than it receives. Congress may yet see fit to authorize a popular loan, or in some other way provide for the protection of the gold reserve; but experience leads us to hope for very little from the present national legislature. Equally hopeless is the expectation that any legislation can be had which will so amend the national banking act as to increase bank circulation to the par value of bonds deposited. Could this be done it is not improbable that banks which are holding aloof from rendering any assistance to the United States Treasurer would come forward and aid in improving the Treasury situation. Perhaps it is not well to lose sight of the negative blessings which a do-nothing Congress may confer. The country is tolerably safe from any repeal of the State bank tax, and the national banking system itself will probably stand secure until a substitute which will provide an equally sound financial system on easier terms for the people can be found. This is a question for sound money men to settle, not inflationists, fiat money cranks and silver maniacs.

Watermarks.

BY DANPY.

I see that they are making coffins from and are lining refrigerators with wood pulp. That simply shows that wood pulp is equal to both extremes.

Another case of alleged moist bagging! Well, well, well! as the baseball man says, when will American buyers stop purchasing Manchester canal water? American water is just as good, although the other is "English, you know."

The question of where to hold the annual meeting of the American Paper Manufacturers' Association—last year there wasn't any meeting, and I call it annual by courtesy—is now being agitated, and it is suggested that Manhattan Beach would be just the right place.

Well, it is. It has all the advantages of Saratoga and many others. It has plenty of water, and the members can listen to the sad sea waves, although water isn't the mighty factor in the meeting. Then it has a few speedy horses and good food, and plenty of fresh, cool air, the latter being a factor of which Saratoga is wofully deficient.

Have it at Manhattan Beach by all means. Everybody can make an excuse to come to New York, if excuse is needed, and New York is just next door to Manhattan. The one thing missing will be John Y. McKane.

Since man is made of dust, it is not unreasonable to expect, from the state of the highways, that Philadelphia may yet overtake Chicago in population. That accounts for the fact that some men in the paper trade who didn't known enough to go in when it rained are now called "Mud."

I understand that some ground wood manufacturers at the East have had a proposition submitted to them whereby they are to put their product in one channel for export business. I wonder if they will take it, or whether each one will prefer to paddle his own canoe.

That stamped envelope contract seems to have been in the nature of a surprise party. Guess it was; but it simply shows that when Philadelphia, Castleton and Hudson get together something is going to happen. As Brer Jasper said, "The Sun do move."

Talking about the sun reminds me that the *Sun* trots out "irrefragable supersapience" as a brand new combination calculated to floor a man. I should think it would. That must be the trouble with some fellows in the paper trade.

Water causes a deal of trouble in the paper trade. First, there is the everlasting question of moisture in pulp, and then the equally everlasting question of moisture in bagging. If some fellow would only determine how much water a fellow can put in without being caught he would confer a favor on all hands and ——

Trade Talks.

George W. Millar, of G. W. Millar & Co., New York—We arrived home on the Majestic last Wednesday. Had a very pleasant and enjoyable trip. We had no rough weather, and did not have the racks on the table once. We went to Genoa, Vienna, Florence, Gibraltar, Nice, Paris and London, and had a most pleasant time. Business—no, I didn't look at paper. I went for pleasure, and didn't even want to see a man in the trade. Business on the other side is quiet. London is brightening up her stores in anticipation of American buyers, but beyond that there is nothing stirring. The general notion is that Southern Italy is warm at this season. This is not so. Garden truck is out in full, but the vines are not, and there is not ten degrees bewteen there and New York at this time.

Changes, Removals and New Firms.

Cary & Lyon, publishers, Sidney, Neb., have sold out.

The *Eagle*, Sheldon, Ia.. has been sold to Geo. H. Nelson.

The *Western World*, Sedalia, Mo., has suspended publication.

The *Evening Post*, Boston, Mass., has suspended publication.

The Tacoma (Wash.) *Union* has been sold to Col. Will Vischer.

F. G. Edelman, dealer in stationery, Sheridan, Wy., has sold out.

S. M. Jordan, bookseller and stationer, Stanberry, Mo., has sold out.

E. A. Merriman has sold the Madison (Me.) *Bulletin* to E. W. Cook.

L. F. Alsop has bought a half interest in the New Douglas (Ill.) *World*.

The *Independent* is a new weekly paper published at Woodhaven, N. Y.

S. A. Jackson & Co., dealers in stationery, Kosciusko, Miss., have sold out.

The *Daily Evening Star* of Bellevue, Ohio, has suspended publication.

The *Ranch Herald* is a new agricultural paper published at Seattle, Wash.

Brown & Hobbs, stationers, Knoxville, Tenn., have dissolved partnership.

Frank McIntosh, of Trenton, N. J., has purchased the Attica (N. Y.) *News*.

J. J. Flahiff, publisher, Newport, Ark., has been succeeded by E. C. Waterman.

Godfrey & Watson, dealers in stationery, &c., White Oaks, N. Mex., have sold out.

The *Midland Monthly* is the name of a new magazine just started at Cedar Rapids, Ia.

The Kirkland Lithium Paper Company, Cheyenne, Wy., will remove to Denver, Col.

The *Argus* is a new paper published at Hillsboro, Ore., by Messrs. Mitchell and Clow.

H. H. Hoffmann & Co., blank book manufacturers, Chicago, Ill., have dissolved partnership.

The *La Plata News*, Greeley, Col., is a new weekly paper published by Chas. C. Wright.

W. E. Keith, bookseller and stationer, Riverside, Cal., has been succeeded by R. P. Cundiff.

H. H. Kohlsaat has sold a controlling interest in the Chicago *Inter-Ocean* to Wm. Penn Nixon.

Denver, Col., will soon have a new Sunday paper, the *Panorama*, published by E. Chapin Gard.

The *New Union* is a new paper published in San Francisco, Cal., by M. McGlynn and C. H. Johnson.

The *Enlightener* is a new paper published at Oswego Falls, N. Y., in the interest of Prohibition.

The plant of the *Reform Advocate*, Granite Falls, Minn., has been removed to Clarkfield, Minn.

The *Daily Brief* is the name of a paper lately started at San Francisco, Cal. Henry G. Shaw is editor.

Lima, Ohio, is to have a new paper. Joseph F. Travers, formerly of the Boston *Courier*, will be its editor.

The business of Hargis & Chapman, dealers in books, stationery, &c., Carthage, Mo., is in the hands of trustees.

The *Advancing Nation* is the name of a new weekly paper published at Madison, Me., in the interest of labor.

The *Daily Reformer* is the name of a new paper published at Galt, Ont. Andrew Laidlaw is editor and proprietor.

The *Sunday Review* is a new paper just started at Springfield, Mo. Frank W. Gregory is editor, and H. W. Conway, publisher.

The *Hagodeh* is a new Hebrew paper just started at Minneapolis, Minn. It is printed in both the English and Hebrew languages.

Bert Alling, Madison, Ind., having bought the stock of Rogers & Cowlan, of that place, at sheriff's sale, has engaged in the stationery business.

The *Epitome*, edited by Jean B. Lockwood and Mrs. Joseph Roy, is the name of a new paper published at Washington, D. C., in the interest of women's clubs.

The International Publishing Company, St. Louis, Mo., has been incorporated with M. Greenwood, Jr., president,; Robert Rutledge, vice-president, and Samuel I. Lindsay, secretary manager. It is the intention of the company to publish Sunday school papers.

R. E. Blakey, wholesale paper dealer, and dealer in printers' supplies, has removed from Charlotte, N. C., to Petersburg, Va., where he will continue the same line of business. He has just bought the entire stock of the Virginia Paper Company, of Richmond, Va., recently failed, and is the only authorized successor to that company.

The Atlanta *Times* Publishing Company, Atlanta, Ga., has been incorporated to publish a daily paper.

Warnock & Davidson, publishers, Jamestown, N. Dak., have been succeeded by Ellsworth & Parish.

J. S. Sharp, publisher of the Way Cross *Herald*, Way Cross, Ga., has been succeeded by Sharp & Perham.

F. D. Warner & Co., stationers, Gainsville, Fla., have been succeeded by the Harper News Company.

C. Jackson, dealer in books and notions, and publisher of the *Times*, Milford, Mich., has sold his book and notion business.

George Hicks, paper dealer, has removed from Room 280 to Room 11 Potter Building, 38 Park row, New York.

The firm name of John C. Watson & Co., wall paper manufacturers, Montreal, Que., has been changed to Watson, Foster & Co.

The Crown Paper Company, Jackson, Mich., is a new concern recently organized. Geo. M. and Jacob D. Smalley compose the firm.

The Indian River Fibre Company will be the name of a company lately organized by Captain Pritchard, at Tampa, Fla., for the manufacture of palmetto fibre.

The *Reform Patriot* Publishing Company, Orangeburg, S. C., has been incorporated by J. H. Claffy, J. Wm. Stokes, W. S. Barton, H. H. Brunson and others.

A company has been organized at Kenedy, Tex., to publish a weekly newspaper. J. S. Brady will be editor of the paper, and C. P. Bailey secretary of the company.

The plant of the Arkansas Lithograph and Printing Company, Little Rock, Ark., has been purchased for $9,000 by W. B. Worthen, who will operate the same.

The Healy Card Company, New York, has been incorporated. The directors are Warren M. Healy, John H. Zabriskie and Robert Horne. Capital stock, $150,000.

The Galveston Publishing Company, Galveston, Tex., has been incorporated by W. F. Ladd, G. Seeligson, Charles Fowler, Fred Chase and C. H. McMaster. Capital stock, $20,000.

The *Sentinel* Publishing Company, Cordele, Ga., has been incorporated to publish the *Sentinel* by J. Lynn Smith, Mrs. N. D. Brooks and Mrs. Theodora Bivins. Capital stock, $2,500, fully paid in.

The Rossie Paper Mills at Edwardsville, Briar Hill and Morristown, N. Y., have been incorporated. The directors are A. R. L. McCrear, Jr., Gouverneur, N. Y.; W. J. Arkell and Bernhard Gillam, Canajoharie, N. Y. Capital stock, $50,000.

The Globe Paper and Fibre Company, Hounsfield, Jefferson County. N. Y., has been incorporated. The directors are Jas. D. Spenser, Charles Ehrlicher, Tom Waller and Edward Finnegan, of Watertown, N. Y. Capital stock, $300,000.

The Bacon Paper Company, Lawrence, Mass., is about to be dissolved. J. A. Bacon, president, has bought all of the property of the company and will continue business under the same style, having his office at 17 Milk street, Boston.

The *New World* Publishing Company, New York, has been incorporated to published a newspaper and do a general printing and publishing business in New York city. Capital, $5,000. The directors are Emil T. Neben, Frank Hiller and George W. Ferre, of Brooklyn.

The Southern Printing and Manufacturing Company, Chattanooga, Tenn., has been incorporated to carry on a printing and paper box making business. It will succeed the Lane-Kuster Publishing Company and the Enterprise Printing and Box Company. Chas. L. Deardorff is president, Chas. E. Kuster, vice-president, and J. G. Stauffer, secretary and treasurer.

The Jacoby Paper Company, Middletown, Ohio, which succeeds the Middletown Paper Company, was incorporated on May 3. Geo. C. Jacoby is president and treasurer and G. N. Clapp secretary. The directors are G. N. Clapp, Hon. W. L. Dechant, Mrs. G. C. Jacoby and Mrs. N. G. Clapp. Wm. McLane, the superintendent, will start up the mill soon with 100 men.

Failures.

M. L. Harrison, stationer, St. John, N. B., has assigned to Thomas Linton. Mr. Harrison started business in 1879 and failed in 1887 with liabilities of $4,000; assets, $1,800.

An attachment against the Mackenzie Press, 413 Pearl street, New York, for $416 in favor of George W. Rodgers has been received by the sheriff. When the sheriff went there to make a levy he was informed that the plant was chattel mortgaged for $20,000 to the George Mather's Sons Company, printing ink manufacturers, at 29 Rose street, which went into the hands of a receiver a month ago. By this receivership

the affairs of the Mackenzie Press, it is said, have been placed in an unsettled condition, and efforts have been taken with a view of reorganizing the latter concern. The sheriff attached some book accounts.

Deputy Sheriff Finn has received two executions for $600 against the American Woodenware Company, at No. 81 Murray street, but found nothing to levy upon, as the United States marshal had taken possession some days ago on an execution for $25,000. The latter claim is in favor of the Oval Wood Dish Company for infringement of patent, and judgment was obtained in the United States Court.

On Friday, May 4, the Molleson Brothers Company took possession of the Stuyvesant Press, 154 West Twenty-seventh street, New York, on an execution issued under a judgment for $1,122. On Tuesday A. E. De Mott entered up a judgment against the concern for $1,026, and Perkins, Goodwin & Co. another judgment for $312. The company is endeavoring to arrange its affairs satisfactorily to its creditors. It owes about $4,000. It was incorporated under the laws of New York, on January 2, 1892, with a capital stock of $5,000, which was increased to $10,000 in September of same year. Edward Ralph is president. The concern had a fire some time ago which damaged its plant to some extent.

Samuel L. Clemens (Mark Twain), senior partner of the publishing house of Charles L. Webster & Co., sailed for Europe on Wednesday on the steamship New York. Before his departure Mr. Clemens held an extended conference with Bainbridge Colby, the assignee of the company. Later, Mr. Colby made the following statement: "The liabilities of the firm will not exceed $80,000. The largest claim against the company is one for $25,000. There is on truth whatever in the report that Mrs. U. S. Grant has a large sum of money due her on the 'Grant Memoirs' Her claim will not exceed a few hundred dollars. I am convinced that there is only one way to realize on the assets of the Webster Company, and that is to sell them in the usual course of business. I still have hopes that some plan may be perfected which will make it possible to sell the stock which is on hand without resorting to such a costly alternative as an assignee's sale. Mr. Clemens feels keenly the condition in which his affairs are involved, and whatever the result of the plan which he has adopted for the working up of the assets and the continuation of contracts, I do not think that he will consider himself relieved of the moral obligation to repay his creditors." Mr. Colby said that Mr. Clemens sailed for Europe to be absent indefinitely. He has a number of important engagements abroad, but will return at once should there be any need here for his presence. On Thursday Assignee Colby was granted permission by Judge Bookstaver, of the Court of Common Pleas, to furnish a provisional bond for $20,000 pending the completion of the inventory and schedules. Mr. Colby states that the assets which have so far come into his possession are valued at $26,167.81.

General Notes.

Judgments aggregating $6,401 have been entered in favor of Lorillard Spencer against the *Illustrated American* Publishing Company, New York.

It should be borne in mind that the Cleveland Stone Company, Cleveland, Ohio, makes a specialty of grindstones for grinding paper cutting knives, as well as stones for pulp grinding, on short notice.

According to Census Bureau statistics California in comparison with other States of the Union stands fifteenth in paper making, eighth in book and job printing and publishing, and seventh in newspaper and periodical printing.

Acting Secretary Sims of the Interior Department has awarded the contract for furnishing envelopes for the use of the department for the ensuing year to the Morgan Envelope Company at its bid of $13,625. The other bidders for the contract were Springfield Envelope Company, W. H. Eaton, P. P. Kellogg & Co., Holyoke Envelope Company, White, Corbin & Co., and the W. H. Hill Envelope Company.

The World's Exhibition at Antwerp, Belgium, was formally opened by King Leopold and his Queen on the 5th inst. The occasion was one of general rejoicing, and the ceremonies were of an impressive character. The United States ranks fifth in the amount of space occupied, but whether the exhibits are creditable to it remains to be seen. President Cleveland has appointed the following named commissioners to represent this country at the Exhibition: Gerald V. Massey, of Delaware, Commissioner General; H. W. Gilbert, New York; A. E. Ewing, Illinois; F. A. Gannow, Washington, and Alphonse Le Duc, Louisiana.

Pursuant to an order issued by the Court of Common Pleas of Hamilton County, Ohio, the entire assets of the Friend & Fox Paper Company, consisting of three paper mills, located one at Lockland, Ohio, one at Crescentville, Ohio, and one at Rialto, Ohio, together with all buildings, fixtures, machinery, land, leases, dwellings, water privileges, boats, wagons, live stock, manufactured and unmanufactured merchandise, stock on hand, &c., will be sold at auction—the Rialto and Crescentville properties on Thursday, May 31, and the Lockland on June 1.

An action has been begun by the United Press against the New York *Press* Company, Limited, which publishes the *Press* newspaper in New York, for $5,100, due for service since January 1. The suit involves the question of breach of contract, and the payment of a sum of money aggregating $93,600. The publishers of the *Press* entered into a contract with the United Press on July 7, 1892, agreeing to take its news service continuously until January 1, 1900. The contract stipulated that the price charged for the service should not exceed $300 a week. The United Press furnished the *Press* with its telegraph news to the satisfaction of that newspaper, but on January 1 last the publishers of the *Press* suddenly refused to take the United Press news service. They made no complaint against the United Press, but simply said they did not wish its news. It was then discovered that the *Press* was taking the service of the Western Associated Press at a reduced rate. The United Press reminded the publishers of the *Press* of their contract, but they said the contract was worthless, and could be broken without incurring damages. Notwithstanding the refusal of the *Press* to take its news, the United Press continued to send its service regularly to the *Press*, which as regularly rejected it. The United Press managers finally became weary of the action of the publishers of the *Press*, and decided to sue them for payment for the service which has been offered to the *Press* and rejected. The amount now due the United Press is $5,100, but the contract has still six years to run, and the price of the service for that period would be $93,600.

Market Review.

OFFICE OF THE PAPER TRADE JOURNAL, FRIDAY, May 11, 1894.

THE MONEY MARKET.—The volume of business in the stock market was light, but most of the moving shares closed at lower figures. Call loans on stock collateral continue very easy and seldom realize over 1 per cent. Time loans show no increase in activity, although the pressure of funds is great. Rates are reduced to 1½@2 per cent. for short terms and 2½@3 per cent. for ninety days and upward. Commercial paper of best quality continues in poor supply and rates are no higher. Brokers' quotations are as follows: Choice indorsed receivables, 2½@3 per cent.; best single names, 3@4 per cent.; others, 4½ per cent. and upward. The supply of poorer grades of paper continues to increase. Such notes are not taken any more readily by the banks than they have been for some weeks past, although supplies are larger. The market for foreign exchange was inactive but firm at the quotations which have ruled throughout the week. There was a general expectation of further exports of gold tomorrow, as commercial exchange showed no important improvement in supply. Posted rates were $4.88½ for sixty days and $4.90 for sight. Actual rates were 4.87¼@4.87½ for sixty days, and $4.88¼@4.89½ for sight.

THE PAPER TRADE.—Mill business is not very active, and manufacturers as a rule are running on short time, while some of them are shut down altogether. Local trade does not improve any, and none of the grades show any special features. Prices are weak in nearly all lines, and round orders as a rule bring slight concessions to the buyer.

JUTE BUTTS.—The market is quiet and unchanged. The statistical position, according to Cabot, Ray & Co., is as follows: Imported to the United States, 1891, 56,692 bs.; 1892, 232,387 bs.; 1893, 331,783 bs. Consumed in the United States, 1891, 567,972 bs.; 1892, 222,609 bs.; 1893, 368,336 bs. Stock on hand, New York and Boston, January 1, 1894, 6,150 bs. Imported, New York and Boston, January 1, 1894, 95,705 bs.; 1893, 245,802 bs.; 1892, 174,368 bs. Stock, New York and Boston, May 1, 1894, 4,392 bs.; 1893, 24,691 bs.; 1892, 91,057 bs. On passage for United States, April 17, 1894, and by cable to April 30, 1894, 87,654 bs.; 1893, 105,758 bs.; 1892, 121,854 bs. Visible supply to September 1, 1894, 97,463 bs.; 1893, 263,859 bs.; 1892, 112,911 bs. Consumption since January 1, 1894, 97,463 bs.; 1893, 263,859 bs.; 1892, 126,281 bs. Delivered to consumers past thirty days, 24,870 bs.; 1893, 40,408 bs.; 1892, 34,119 bs. Of the month the same circular speaks as follows: "Market for the month has been without feature; sales light on spot and nothing in futures, Calcutta market remaining firm at high prices. Deliveries to consumers for the month have been to bagging manufacturers, 18,334 bs.; to paper manufacturers, 6,536 bs. Spot stock, 4,392 bs. paper quality. Supply to September 1, paper quality, 11,492 bs.; owned by bagging manufacturers, 80,550 bs."

WOOD PULP.—There continues a demand from abroad and by next week some cargoes will be loading for export business. Home trade is quiet, and values range from $16@17 per ton.

WOOD FIBRE.—The business in progress has been small. Domestic Soda is quoted at 2¾@3½c. for Bleached. Domestic Sulphite is quoted at 2¼@2½c., as to quality, for Unbleached, and 3½c. for Bleached. Foreign grades are quoted as follows: Unbleached Pine, soda process, 2.60@2.75c.; Bleached, same process, 3¼@3.90c.; Unbleached, sulphite process, 2.50@3.25c.; Bleached, do., 4@4½c.; Bleached Straw Pulp, 4@4½c. Imports of Chemical Fibre this week aggregated 171 tons, being 103 tons from Antwerp, 15 tons from Hamburg, and 53 tons from Stettin.

FOREIGN RAGS AND PAPER STOCK.—The market for foreign rags is inactive and sales have been of small and unimportant parcels only. Imports for the week aggregated 7,330 bales and 171 tons, being 814 bs. rags, 72 bs. papers, 171 tons chemical fibre and 6,444 bs. manillas. Ports of shipment and quantities are as follows: Antwerp, 82 bs. rags, 103 tons chemical fibre and 233 bs. manillas; Bremen, 1,370 bs. manillas; Genoa, 860 bs. manillas; Glasgow, 7 bs. rags, 19 bs. papers; Hamburg, 425 bs. rags, 15 tons chemical fibre and 921 bs. manillas; Leghorn, 300 bs. rags; Leith, 53 bs. papers; Liverpool, 746 bs. manillas; London, 1,178 bs. manillas; Stettin, 53 tons chemical fibre and 1,136 bs. manillas.

DOMESTIC RAGS.—Domestic stock is moving fairly well and values remain steady at 3@3¼c. for No. 1 Whites, 2@2¼c. for Soiled Whites, and 1@1½c. for No. 2's.

BAGGING, &c.—The market for Gunny Bagging is quiet this week and no transactions are reported. Quotations remain at 1.10c., which seems to be the figure all around. Imports of Manilla stock for the week aggregated 6,444 bales, being 233 bs. from Antwerp, 1,370 bs. from Bremen, 860 bs. from Genoa, 921 bs. from Hamburg, 746 bs. from Liverpool, 1,178 bs. from London, and 1,136 bs. from Stettin.

OLD PAPERS.—There is a moderate trade in small lots, but the market is not active. We quote: No. 1 Hard White Shavings, 2¼c.; No. 1 Soft White do., strictly free from wood, 2.15c.; Soft White do., ordinary, 1⅞@2c.; Old Ledgers, 2.10c.; Solid Printed Books, 1¼c.; Mixed Shavings, No. 1, 1.20@1.25c.; Mixed Shavings, No. 2, ¼@1c.; Extra No. 1 Manillas, 1.15c.; No. 1 Manillas, ordinary, .80c.; No. 2 Manillas, .60c.; Light Book Stock, 1½c.; Folded News, .40c.; Mixed Papers, .40c.; Commons, 25@30c.; Straw Clippings, .45@.50c.; Binders' do., .50c.

STRAW.—Straw is selling fairly well. We quote: No. 1 Long Rye at 60c.; No. 2 Long Rye at 50@55c.; Short Rye at 45@50c.; Wheat at 40@50c.; Oat at 45@50c.

ROSINS.—Rosins were in limited demand. We quote: Common to Good Strained, $1.40@1.45; E, $1.55; F, $1.70; G, $2; H, $2.30; I, $2.55; K, $2.80; M, $3; N, $3.15; W. G., $3.25.

CHEMICALS.—The market for paper makers' chemicals continues very quiet, and the market is devoid of any startling features. The demand for Bleaching Powder is slack. Alkali comes freely to hand, and the demand is moderate, while in shipments there is very little business. Caustic Soda is in fair jobbing call, while there is no change in Sal Soda. During the week there have been sales of 50 casks Bleach at 2¼c.; 50 tons Soda Ash at 1½c.; 50 tons 58 per cent. Alkali at 1.15c.; 50 drums Caustic at 2¼@2.80c.

CHINA CLAY.—There continues a steady though moderate demand from consumers with the tone of the market steady and prices well maintained.

TWINES.—Business is slow. We quote: Sisal Hay Rope, 6¼c.; Sisal Lath Yarn, fine, 9¼c., and medium, 9½c.; Jute Lines, 6½c.; Jute Ready, 6c.; New Zealand Hay Rope, 6¼@7¼c.; New Zealand Lath Yarn, fine, 9¼c.; medium, 8¼c. Twines—Hemp, 4½ and 6 B Russia, 12c.; 4½ and 6 A American, 12c.; 4½ and 6 D Jute, 9½c.; 4½ and 6 L Jute, 9c.; Hemp Ball, 18 B C, 17c.; 18 C, 15c.; Russian Hemp Hay Rope, 9c.

COAL.—Anthracite is being turned out to the extent of about 700,000 tons a week. There is some talk of an advance in price; but nothing definite in this direction has developed. At the East there has been a little more doing, but the market is far from active. The New York market holds about steady with some reported advance; but with orders accepted for future delivery at old rates.

EDWIN BUTTERWORTH & CO.,
MANCHESTER ENGLAND,
PACKERS OF ALL KINDS OF
Paper Stock, Cotton Waste and Buffalo Sizing,
Wood Pulp, Moist and Air Dry Pulp,
Soda and Ground Pulp,
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WATERBURY
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MANUFACTURED BY
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Adapted to *every* grade of paper, from the *finest* to the *coarsest*.
The Largest Manufacturers of Paper Makers' Felts in the World.
Our wet machine or pulp felts are *unequaled* for *durability*.
For WRITING and LEDGER PAPERS We warrant a felt equal to anything imported.

PRICES CURRENT.

NEW YORK MARKET.

Paper Market.
DEALERS' SELLING PRICES.

Ledger and Record	$0.18	@	$0.24
Flat Caps, superfines	14	@	16
Flat Caps, fines	11½	@	13
Flat Caps, engine sized	7½	@	9
Blotting, American	8	@	15
Blotting, English	17	@	....
Book, super sized and calendered	6	@	9
Book, super sized and tinted	6	@	7½
Book, extra machine finish	5½	@	6
Book, machine finish, low grade	5	@	5½
News, No. 1	4	@	4½
News, rag and wood	3	@	3½
Poster	5	@	7
Hanging, superfine, No. 1	8	@	10
Hanging, superfine, No. 2	6	@	8
Hanging, machine satin	4	@	4½
Hanging, white blank, No. 1	4	@	4½
Hanging, curtain	3½	@	4
Hanging, brown	2½	@	3
Colored papers, double mediums	6½	@	8
Colored papers, glazed medium	7½	@	8½
Colored papers, tobacco	8½	@	9½
Colored papers, tissues, 20×30, ℔ ream	1.10	@	1.35
Tissues, black, 20×30, ℔ ream	1.40	@	1.50
White tissue, 20×30, ℔ ream	85	@	1.00
White tissue, 24×36, ℔ ream	1.30	@	1.50
Manillas, Flour sack, cream	10½	@	....
Manillas, Flour sack, drab	9½	@	11
Manillas, Rope, unbleached No. 1	9½	@	11
Manillas, Rope, unbleached No. 2	7½	@	9
Manillas, No. 1, light weight	6½	@	6½
Manillas, No. 1, heavy weight	6½	@	6½
Manillas, No. 2	5	@	6
Manillas, Bogus	2¾	@	8½
Wrapping Parchment	16	@	20
Tissue Manillas, full count, weight and size, 24×36, other sizes in proportion	75	@	80
Hardware, light colored, No. 1	9	@	10
Hardware, No. 1, glazed, tarred	7	@	8
Hardware, No. 1, glazed	4½	@	5
Strawboards, air dried, No. 1, ℔ ton f. o. b. mill	....	@	24.00
Straw Wrapping, basis, 15×20, 15½ lbs., 20 sheets—			
36×40, from 36 to 42 lbs. ℔ rm	85	@	....
30×40, from 30 to 34 lbs. ℔ rm	....	@	72
24×36, from 24 to 26 lbs. ℔ rm	....	@	60
22×32, from 24 to 26 lbs. ℔ rm	56	@	....
20×30, 21 lbs., ℔ rm	....	@	44
20×30, from 14 to 17 lbs. ℔ rm	36	@	....
16×22, from 13 to 13 lbs. ℔ rm	28	@	....
18×28	....	@	32
15×20, 10 lbs. ℔ rm	17	@	19
15×20, from 7 to 8½ lbs. ℔ rm	17	@	19
14×18	....	@	15
12×16	....	@	13
11×15	....	@	11
Straw Wrapping, ℔ lb., heavy weight	1.75	@	1.85
Straw Wrapping, ℔ lb., light weight	1½	@	....
Cigarette, Straw Tissue, per case of 100 boxes, 50 books to the box, 200 sheets to the book	21.00	@	30.00
Tea Papers, 16 sheet quires—			
12x18	18	@	20
14x20	22	@	....
Card Middles, ground wood	5½	@	6½
Card Middles, long fibre wood	8½	@	9
Card Middles, rag and wood	6	@	9
Pulp Lined Boards, single manilla, No. 100 and heavier	42.50	@	....
Pulp Lined Boards, double manilla, No. 100 and heavier	47.50	@	....

Woolen Rags.

Comforter Stock	8	@	9
White Woolens	9	@	10
Blue Gray Stockings	7	@	8
White Stockings	15	@	16
Blue Flannels	6	@	7
Reds, old	7½	@	8
Reds, new Shirt Clippings	20	@	21
Mixed Softs, free of Carpets	7½	@	8
Seamed Cloth	3½	@	4
Skirted Cloth	3½	@	2
New Cloth Clips	9	@	11
New Satinets, clean stock	1½	@	1½
Satinets, old	65	@	75
Seams	1	@	1½
Delaines, stripped for extract	2½	@	3½
Blankets, Woolen	2½	@	2½
Wool Carpets	3	@	....
White Linseys	3	@	3½
Mixed Linseys	1½	@	....

Rags, Rope and Bagging.

White Shirt Cuttings, No. 1	5½	@	6
Mill Assorted Whites	3½	@	3¾
Unbleached Muslins	4	@	4½
City Whites, No. 1	3½	@	....
New Seconds, light	2¼	@	....
New Seconds, dark	1½	@	....
No. 2 Whites	¼	@	1.15
Cotton Canvas, No. 1	3½	@	....
Linen Canvas, No. 1	....	@	3
Country Mixed, free of Woolens	60	@	75
Seconds (City)	30	@	50
Colors, ℔ 100 lbs	30	@	40
Manilla Rope	2	@	2½
Manilla Rope, tarred	....	@	....
Gunny Bagging, No. 1	....	@	1½
Mixed Bagging, No. 1	80	@	90
Burlap Bagging, No. 1	....	@	1½
Kentucky Hemp Bagging	....	@	....
Tar Shakings	1	@	....
Hemp Twine Stock	2½	@	....
Jute Waste	½	@	1

Shavings and Old Paper.

White Collar Cuttings	3	@	....
White Envelope Cuttings	3½	@	....
Hard White Shavings, No. 1	2½	@	3
Soft White Shavings, strictly free from wood	2.15	@	....
Soft White Shavings, ordinary	1½	@	2
Mixed Shavings, part white	1	@	1½
Ledger and Writing	2	@	2.10
Solid Stock	....	@	1½
Book Stock, No. 1 light	....	@	1½
Old Newspapers	40	@	....
Manillas No. 1	....	@	1.15
Manillas No. 2	80	@	....
Mixed Manillas	60	@	....
Hardwares, No. 1	65	@	....
Mixed Papers	40	@	....
Commons	25	@	30
Binders' Board Cuttings	50	@	....
Strawboard Cuttings	45	@	50

English Old Papers and Shavings.

Hard Shavings, No. 1	2	@	....
Soft Shavings, No. 1	2¼	@	2½
White and Colored Shavings, No. 1	1¼	@	1½
White and Colored Shavings, No. 2	1	@	1¼
Cream Post Shavings	2½	@	....
Paper Collar Cuttings	....	@	2
Briefs and Letters	1½	@	1¾
Books and Pamphlets	1.10	@	....
Old Newspapers	....	@	....
Broken News and Letters	¾	@	1
Old Blank Books	2¼	@	2½
White and Buff Railway Sheets	1¼	@	....

Japanese Rags.

Blues, Hiogo	1.45	@	....

Chemicals, Coloring Materials, &c.

Alkali, 58 ℔ cent	1.55	@	1.75
Alum, lump	1.65	@	....
Alum, ground	1.75	@	....
Alum, Keystone	1¾	@	1¾
Alum, Diamond	....	@	2½
Alum, pearl	2¾	@	2¾
Alum, porous	2¾	@	2¾
Alum, Merrimac porous	2	@	....
Aluminous Cake	....	@	1¾
Anti-Chlorine	....	@	2¾
Bichromate Potash, American	....	@	10
Bleaching Powders, spot	2¼	@	....
Cambridge Ochre	11.25	@	....
Caustic Soda, 60 ℔ cent	2.75	@	2.80
Clay, China, English, ℔ ton	12.50	@	17.00
Clay, China, "Star"	12.50	@	....
Clay, China, "Keystone"	10.75	@	....
Clay, South Carolina, ℔ ton	9.50	@	10.00
Clay, Terra Alba, French, ℔ cwt	1.00	@	1.12½
Clay, Terra Alba, American, No. 1	95	@	1.00
Corn Starch	3	@	3¼
Copperas, American	....	@	80
Extract Logwood	9½	@	....
Mineral Pulp	10.25	@	....
Orange Mineral	....	@	9½
Potato Starch	4½	@	4¾
Prussian Blue, dry	20	@	25
Prussiate Potash, American	....	@	34½
Rosins, common to good strained, ℔ bbl	1.42½	@	1.45
Rosins, E, ℔ bbl	....	@	1.55
Rosins, F, ℔ bbl	1.70	@	....
Rosins, G, ℔ bbl	....	@	2.00
Rosins, H, ℔ bbl	2.30	@	....
Rosins, I, ℔ bbl	2.55	@	....
Rosins, K, ℔ bbl	2.80	@	....
Rosins, M, ℔ bbl	3.00	@	....
Rosins, N, ℔ bbl	3.15	@	....
Rosins, W G, ℔ bbl	3.25	@	....
Sal Soda	1.10	@	....
Soda Ash Caustic, 48 ℔ cent	1.60	@	1.65
Soda Ash, carbonated, 48 ℔ cent	1.57½	@	1.70
Soluble Blue	40	@	55
Spanish Brown	¾	@	1
Sugar Lead, white	12	@	....
Sugar Lead, brown	7	@	....
Sulphate of Alumina	....	@	2½
Sulphuric Acid, 66 ℔ cent	1	@	1¼
Ultramarine, blue	14	@	17½
Venetian Red	1	@	1½
Vitriol, blue	5½	@	5¾
Yellow Ochre Rochelle	1.35	@	1.50

BOSTON MARKET.

Paper Stock.

White Rags, No. 1	4	@	....
No. 2 Whites	3	@	3½
Common Seconds	2	@	2½
Thirds and Blues	1	@	1.20
Southern Mixed Rags	80	@	1
Colors, country	½	@	¾
Colors, city	25	@	30
New Calicoes, light	2	@	2½
New Calicoes, dark	1¾	@	1¾
Shirt Cuttings, best	4¾	@	5
Shirt Cuttings, good	4	@	4¼
Shirt Cuttings, unbleached	4	@	4¼
Shirt Cuttings, unbleached No. 2	....	@	3
Shirt Cuttings, cheviots	3	@	3¼
Overall Cuttings, blue	....	@	3
Overall Cuttings, brown	2	@	2½
Shoe Rags, bleached	3½	@	4
Shoe Rags, unbleached	3½	@	3
Shoe Rags, brown	3	@	....
Cotton Flannels, bleached	3½	@	4
Cotton Flannels, unbleached	3½	@	....
Corset Rags, drab	3½	@	....
Corset Rags, white	4	@	....
Tailors' Seconds	1¼	@	1½
Tailors' Colors	25	@	....
Cotton Canvas	....	@	2
Cotton Canvas, No. 2	....	@	1½
Linen Canvas	1½	@	2
New Canvas Cutting	4	@	4½
Insole Canvas	3	@	3½
Print Papers, best	35	@	40
Print Papers, ordinary	30	@	35
Folded News	55	@	60
Old Waste Papers	15	@	20
Manilla Paper, No. 1	1.30	@	1.35
Manilla Paper, good mixed	90	@	....
Manilla Paper, blues	75	@	....
Mixed Book Stock	1	@	....
Books and Pamphlets	1¼	@	1½
Book Stock, light	¾	@	1
Ledgers and Letters	1½	@	2¼
Soft Book Shavings	1½	@	2
Hard White Book Shavings	2¼	@	2¼
Leather Board Chips	75	@	80
Straw Chips	45	@	50
Shivey Bagging	1½	@	....
No. 1 Factory Bagging	1	@	1½
Burlap Bagging	85	@	1
Burlap Bagging, large pieces	85	@	1¼
Kentucky Bagging	1½	@	2
Mixed Bagging	½	@	....
No. 2 Bagging	¾	@	¾
Shakings, soft	½	@	....
Tarred Shakings	1	@	1¼
Standing Rigging	3	@	....
Standing Rigging, foreign	2½	@	....
Bolt Rope	2	@	....
Oakum Junk, No. 2	1½	@	1½
Tarred Paper Junk	1.15	@	1.20
Tarred Paper Junk, inferior	½	@	....
Manilla Rope	2	@	2.15
Tarred Manilla	1½	@	....
Hemp Strings	1¾	@	2
Sisal Strings	80	@	1
Wool Strings	90	@	1.10
Flax Tow	¾	@	1
Flax Waste	¾	@	1

New Papers.

Superfine Book	6	@	7
Fine Book	5¾	@	6
News, rag and wood	3	@	....
Manilla, Cream Rope	9½	@	10
Manilla, No. 1, Rope	7½	@	8½
Manilla, Extra Jute	5½	@	6
Manilla, Jute and Gunny	5½	@	6
Manilla, No. 2	4	@	4½
Manilla, Bogus	2	@	3
Hardware, No. 1, tarred	7½	@	8¼
Hardware, No. 2	6½	@	7
Hardware, red	4½	@	5½
Strawboards, air dried, ℔ ton	37½	@	45.00
Strawboards, steam dried, ℔ ton	30.00	@	35.00
Straw Wrapping, heavy	1.90	@	2¼
Straw Wrapping, light	2¼	@	2½
Binders' Boards, ℔ ton	45.00	@	50.00
Leather Board, Common, ℔ lb	3	@	4
Leather Board, counter	3	@	4
Leather Board, extra	8	@	10
Tar Boards, ℔ ton	100.00	@	110.00

Chemicals.

Alkali	1.00	@	1.10
Aluminous Cake, currency	1¼	@	1½
Alum, American ground	....	@	1.95
Alum, American lump	....	@	1.85
Anti-Chlorine	2	@	2½
Bichromate Potash, American	10	@	....
Bleaching Powders	2½	@	2¾
Blackley Blue	2.00	@	3.00
Caustic Soda, 74 ℔ cent	....	@	2.65
Clay, English, ℔ ton	14.00	@	18.00
Clay, American, ℔ ton	10.00	@	11.00
Copperas, ℔ lb	65	@	75
Extract Logwood	5½	@	11½
Lime, Rockland, ℔ bbl	90	@	....
Prussian Blue, ℔ lb	50	@	60
Prussiate Potash, American, yellow	32	@	33½
Prussiate Potash, red	38	@	38½
Rosin, common strained, ℔ bbl	1.90	@	2.50
Rosin, Medium	2.30	@	3.00
Rosin, extra pale, ℔ bbl	3.00	@	4.50
Sal Soda, English, ℔ lb	1.00	@	1.05
Soda Ash, 48 ℔ cent. caustic	1.40	@	1.60
Soda Ash, 48 ℔ cent. carbonated	1.37	@	1.50
Soluble Blue	55	@	65
Sugar Lead, white	11	@	12
Sugar Lead, brown	5½	@	6
Sulphuric Acid, 66°	¾	@	1¼
Terra Alba, ℔ ton	15.00	@	20.00
Ultramarine, ℔ lb	12½	@	15
Venetian Red, ℔ lb	1½	@	2¼
Vitriol, Blue	3½	@	3¾
Yellow Ochre	½	@	1

Wants and For Sale.

Twenty-five words or less, one dollar each insertion. Over twenty-five words, four cents a word each insertion, up to eighty words. Cash should accompany order.

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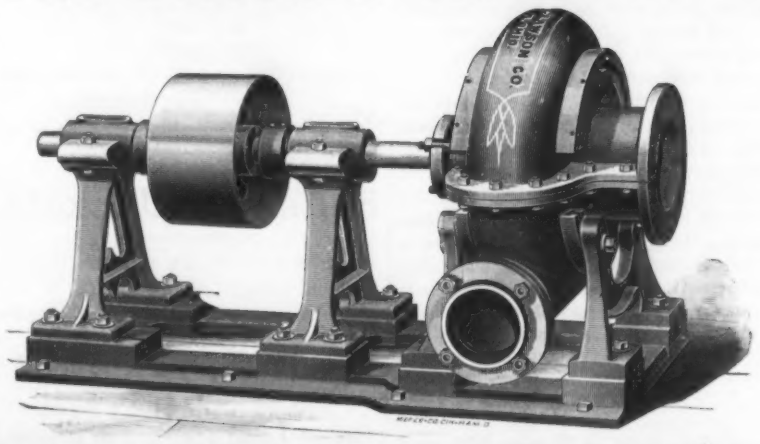

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NOTICE.

My attention having been called to the fact that certain parties are infringing certain Letters Patent granted to me, to wit: No. 212,866, dated March 4, 1879, covering a new form of carpet lining, and No. 235,698, dated December 21, 1880, covering the method of and apparatus for making the same, this is to notify all such persons, whether manufacturers or dealers, that any infringement of either of said patents will be prosecuted to the full extent of the law. MOSES NEWTON, Patentee.

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RECEIVERS' SALE.

Sale of the Entire Assets and Property of the Friend & Fox Paper Company.

COMMON PLEAS COURT, Hamilton Co., Ohio.

GEO. N. FRIEND *et al.*, Plaintiffs,
vs.
THE FRIEND & FOX PAPER CO. *et al.*, Defendants.
No. 97720.

Pursuant to an order issued by the Court of Common Pleas in the above cause, the undersigned, as receivers, will offer for sale at public auction, the entire assets and property belonging to said company, except the book accounts and bills receivable.

Said assets consist of three paper mills: one located at Lockland, Ohio, one at Crescentville, Ohio, and one at Rialto, Ohio.

The mill at Lockland consists of the mill building, machinery, appurtenances, water privilege and lease.

The mill at Crescentville consists of the mill building, four dwellings, four acres of land, machinery, appurtenances, water privilege and lease.

The mill at Rialto consists of mill building, fourteen acres of land, eight dwellings, machinery, appurtenances, water privilege and lease.

In addition to the foregoing, the warehouse, one dwelling house, office building and fixtures at Lockland, and the merchandise in the three mills, manufactured and unmanufactured; stock on hand in the warehouse at Lockland and elsewhere; one iron canal boat, one wooden canal boat, four mules and harness; one horse, two wagons and one carriage at the Rialto mill; two horses, two wagons and harness at the Lockland mill, and all other assets and property of said company.

The Rialto mill with its machinery, fixtures, water privilege and lease, fourteen acres of ground and eight dwelling houses, will be offered for sale as an entirety on the premises on Thursday, May 31, 1894, at two o'clock P. M. Immediately after the conclusion of said sale the Crescentville mill, with its machinery, fixtures, water privilege and lease, four acres of land and four dwellings, will be offered for sale as an entirety on the premises. On Friday, June 1, 1894, at two o'clock P. M. in the office of the company at Lockland, Ohio, the Lockland mill, with the ground on which it stands, its machinery, fixtures, water privilege and lease, will be offered as an entirety; thereafter the warehouse and lot, dwelling house, office building and fixtures at Lockland will be offered; also all the other above enumerated assets of said company in lots to suit. At the conclusion of said sales at Lockland all of the assets of said company, except the book accounts and bills receivable, including the three mill plants, will be offered for sale as an entirety.

Additional and detailed information will be furnished by the receivers to any person desiring to bid.

The terms of the sale will be: For the mill plants and other real estate aforesaid one-third cash, balance in four equal instalments in six, twelve, eighteen and twenty-four months from day of sale, with notes bearing interest at six per cent. secured by mortgage on the property sold; for the chattel property one-half cash, balance in notes at six and twelve months from the date of sale, with interest at six per cent. and with approved security. Purchasers may pay all cash. All sales are subject to approval and confirmation by the Court.

EDMOND P. HARRISON,
GEO. B. FOX,
Receivers.

LOCKLAND, Ohio, May 5, 1894.
THOS. MCDOUGALL, Attorney.

BOOKS OF REFERENCE

THE following is a list of Books of Reference on subjects connected with Paper Making, Chemicals, Colors, Machinery, Hydraulics, &c.:

AUERBACH.—Anthracen: Its Constitution, Properties, Manufacture and Derivatives. 8vo.	$5 00
BAIRD.—Standard Wages Computing Tables. Folio.	5 00
BENSON.—Principles of the Science of Color. 4to.	7 50
BENSON.—Manual of the Science of Color. 12mo.	1 00
BESANT.—A Treatise on Hydro-Mechanics. 8vo.	5 00
BOX.—A Practical Treatise on Heat as Applied to the Useful Arts. Illustrated by fourteen Plates. 12mo.	5 00
BOX.—A Practical Treatise on Mill Gearing. 12mo	3 50
BOX.—Practical Hydraulics. 12mo.	2 00
BRESSE.—Hydraulic Motors. 8vo.	2 50
BROWN.—Five Hundred and Seven Mechanical Movements. 12mo.	1 00
CALVERT.—Dyeing and Calico Printing, including an Account of the Most Recent Improvements in the Manufacture and Use of Aniline Colors. With dyed Patterns. 8vo.	8 00
CHEVREUL.—The Principles of Harmony and Contrasts of Colors and Their Application to the Arts. Illustrated with Colored Plate. 12mo.	3 00
COOPER.—A Treatise on the Use of Belting for the Transmission of Power. 8vo.	3 50
CORFIELD.—Water and Water Supply. 16mo.	50
CROOKES.—Handbook of Dyeing and Calico Printing. With dyed Patterns. 8vo.	15 00
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DOWNING.—The Elements of Practical Hydraulics. 8vo.	2 75
DUNBAR.—The Practical Paper Maker.	1 00
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KINGZETT.—The History, Products and Processes of the Alkali Trade, including the most recent improvements. 8vo.	2 50
KIRKWOOD.—Report of the Filtration of River Waters, for the Supply of Cities, &c. 4to.	15 00
KOOPS.—Historial Account of the Substances which have been used to describe Events and to convey Ideas from the Earliest Date to the Invention of Paper. By Matthias Koops. Printed on Paper Manufactured solely from Straw. London, 1801.	10 00
KUTTER.—The New Formula for Mean Velocity of Discharge of Rivers and Canals. 8vo.	5 00
LEFFEL.—The Construction of Mill Dams. 8vo	50
MUNSELL.—A Chronology of Paper and Paper Making. 8vo.	2 00
NEVILLE.—Hydraulic Tables, Coefficients and Formulæ for Finding the Discharge of Water from Orifices, Notches, Weirs, Pipes and Rivers. 12mo.	5 00
PALLETT.—The Miller's, Millwright's and Engineer's Guide. 12mo	3 00
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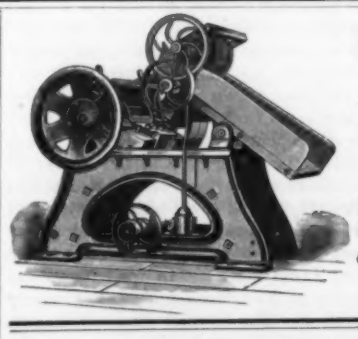

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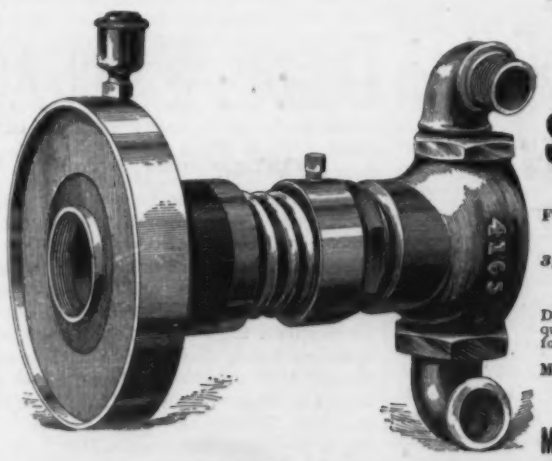

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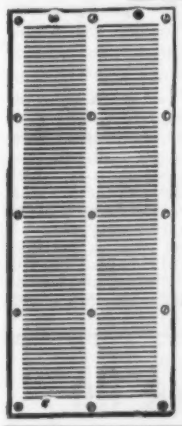

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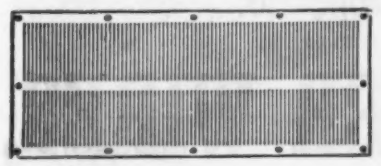

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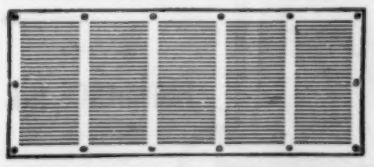

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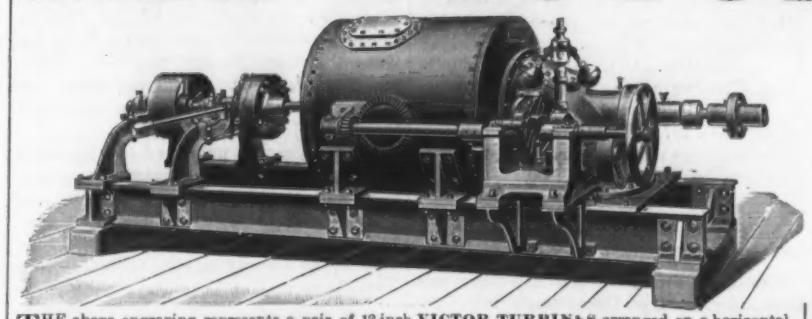

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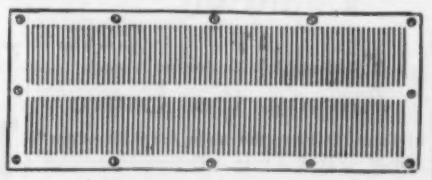

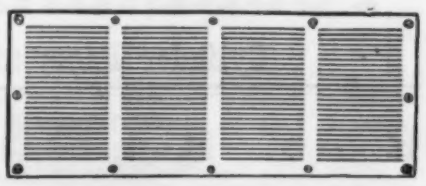

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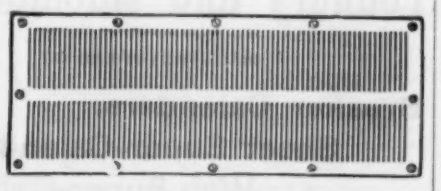

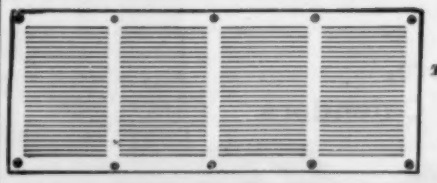

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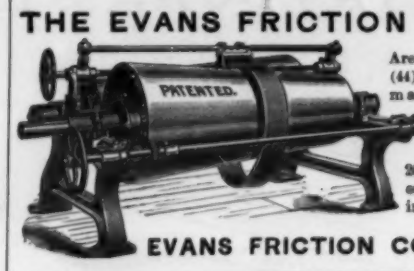

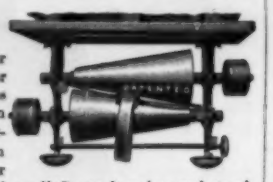

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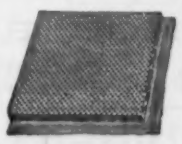

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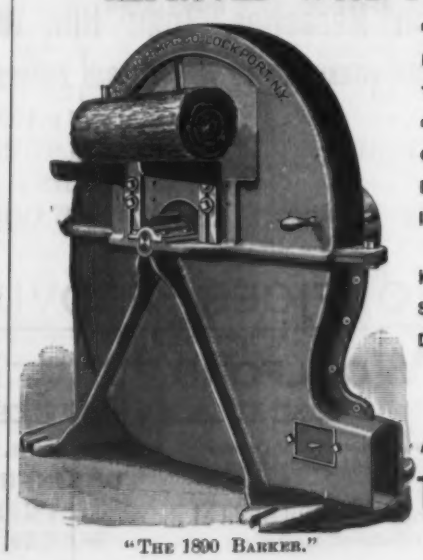

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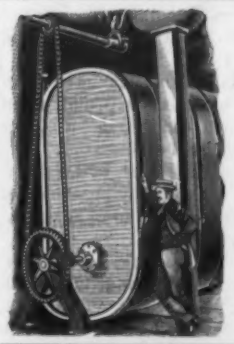
Drag Saw Machines,
Improved Pulp Wood Slabbing and Sawing Machines,
Knot Borers,
Stuff Pumps,
Double and Triple Plunger Pumps, for general use in Pulp and Paper Mills.

Write for Catalogue C and Discounts Address

Trevor Manufacturing Co.,

LOCKPORT, N. Y.



THE SAVAGE PERFECTING STUFF CHEST.

Fits into a narrow space and requires but little power to operate.

It has a double agitating motion, moving the stuff in different directions, which prevents "floating."

It empties itself clean; no waste of stuff and protects from dirt.

Quantity of stuff in chest always shown by indicator.

PATENTED AND MANUFACTURED BY

E. L. SAVAGE, Mechanic Falls, Me.

FOSTER & BROWN, SACCARAPPA, MAINE.

MACHINISTS AND IRON FOUNDERS.

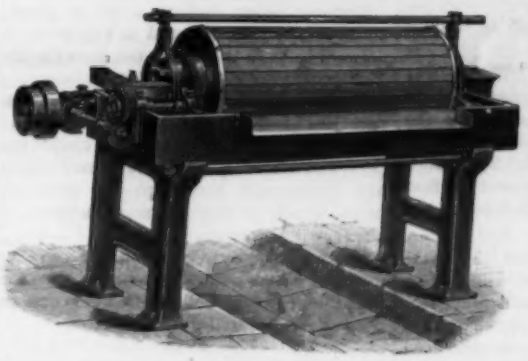
SPECIALTIES:

Improved Paper-Coating Machines; Hanging Machines and Power Reels for Coated Paper; the Merrill-Foster Noiseless Pulp Screens; Paper Slitting and Trimming Machines; Hardened and Ground Slitters; Automatic Elevators.

BUILT UNDER OUR OWN SUPERVISION.

THE "WANDEL"

Patent Rotary STRAINER.



ADVANTAGES:

Regular output of Pulp.
Automatic Cleaning of the Slots.
Automatic Removal of all knots and impurities, thus avoiding their accumulation before the slots.
Avoidance of Stoppage.
Large working ability.
Small requirement of room.
Easy change of cylinder if different widths of slots are wanted.

SIMPLE,
DURABLE,
PERFECT.

Less Power.
Low Cost.
Suitable for all classes of Paper.

The "Wandel" Patent Rotary Strainer is delivered ready for use, with or without the bearing frame. It is working in most of the Paper Mills of Europe and in the THILMANY PULP AND PAPER MILLS, KAUKAUNA, WIS.

FOR FURTHER PARTICULARS APPLY TO——

CHR. WANDEL, Reutlingen, Germany.

Or GEORGE HAMILTON, 74 Wall St., New York.

WENDLER & CO.,

CARTHAGE, N. Y.,

MANUFACTURERS OF

Pulp and Fibre Machinery . . . and Appliances.

ROUND'S PATENT VIBRATING SCREEN.

An Exceedingly Simple and Efficient Machine.
The Cheapest in the Market.

Manufacturing News.

EASTERN STATES.

Material is being got out for the new mill at Westbrook, Me.

It is said that the Smith Paper Company, Lee, Mass., is about to remodel its Columbia Mill, and that when the improvements are completed the mill will be run on tissue papers of high quality.

A broken suction pump at the Eagle Mill, Burnside, Conn., delayed work on the manufacture of paper for the Internal Revenue Bureau two days this week.

The Anchor Mills Paper Company, Windsor Locks, Conn., has contracted with the New York Filter Company for a large filter plant to be used in its mill.

MIDDLE STATES.

Wendler & Co., Carthage, N. Y., have just put in operation one of their new "Campbell" screens. Its operation exceeds their most sanguine expectations, as it took the product of four 24 inch grinders using 250 horse power each.

Huyck & Argersinger, of the Kenwood Mills, Albany, N. Y., are looking for a site for the new mill which is to take the place of that recently burned.

The Fort Edward Pulp Mill, Fort Edward, N. Y., shut down last week for a few days to make needed repairs.

Wendler & Co., Carthage, N. Y., during the last week entered orders for three of their patent wood chippers and a special double cylinder wet machine for sheeting pulp for export 50 per cent. dry.

The United Indurated Fibre Company, Lockport, N. Y., has put in a "Gotham" screen, built by the Brownville Iron Works, Brownville, N. Y.

The arrangements for the new paper mill at Benton, Pa., are under way.

Taggart Brothers, Watertown, N. Y., are preparing to build a paper mill 3 miles north of Carthage, where they have a good water power.

Wendler & Co., Carthage, N.Y., recently furnished the Barclay Fibre Company, of Saugerties, N. Y., with a complete equipment for its acid plant, together with all of the fan pumps used in the mill.

WESTERN STATES.

The machine for the new mill at Oconto Falls, Wis., will be built by the Pusey & Jones Company, Wilmington, Del.

The Mishawaka Pulp Company, Mishawaka, Ind., has broken ground for the erection of its new paper mill to be run in connection with the pulp mill. The building will be 160 feet in length and 80 feet in width at the front and 40 feet at the rear.

On account of lack of coal the New Jerusalem and Crescent paper mills, Marseilles, Ill., have shut down, and other factories will follow. The supply of coal is very small, and as none can be procured from outside points the city will be without a pound of coal within a few days.

Sixty-five years ago the first paper mill in Indiana was built at Richmond, Wayne County, now a court house town and important railway station. The initial output of that mill was about 1,800 pounds of paper each working day.

A complete outfit for a wall paper factory has been shipped by the Kaukauna (Wis.) Machine Company to Valley & Sons, Cleveland, Ohio.

James Jackson, of Chesterfield, Madison County, Ind., has sued the Consumers' Straw Board Company, of Muncie, Ind., for $5,000. The plaintiff alleges that the company is polluting the waters of White River by emptying acids and other refuse from the mill into the stream. He also asks for an injunction to prevent the company from further using the water. It is stated a similar suit will soon be brought against the West Muncie Strawboard Works. The Consumers' Company claims that it has the same right to use the river as any city has to dump its sewage into the water.

SOUTHERN STATES.

Plans are being made for a paper mill at Little Rock, Ark. The Commercial League of that city is back of the project.

CANADA.

The Quebec Paper Bag Company has opened its new factory at St. Roch, Que. It is an entirely new industry, and the factory has, it is said, a capacity of 100,000 bags daily.

The buildings of the Napanee Paper Company, Napanee, Ont., have been given a thorough overhauling and repairing by J. R. Scott, manager of the company, preparatory to beginning the manufacture of paper. A large stock house is being added to the plant. John Christie, long identified with the company, retains his position as assistant manager, and will reside at Napanee.

An Amended Tariff Bill.

The Democratic members of the Finance Committee of the Senate on Monday gave to the public the Wilson bill as they have amended it. The provisions, so far as the paper trade is concerned, are as follows:

Chrome yellow, chrome green, and all other chromium colors in which lead and bichromate of potash or soda are component parts, dry or ground in or mixed with oil, or in pulp or mixed with water, are increased from 2¼ cents per pound on the material contained therein when dry to 3 cents per pound; House bill, 2¼ cents.

Ochre and ochrey earths, sienna and sienna earths, umber and umber earths, ground in oil, changed from 25 per cent. ad valorem to 1¼ cents a pound, as in House provision.

Ultramarine blue, whether dry, in pulp, or mixed with water, and wash blue containing ultramarine, changed from 20 per cent. ad valorem to 3 cents a pound; House bill, 20 per cent.

Sal soda, or soda crystals, changed from 20 per cent. to ⅛ of 1 cent a pound, as in House bill; soda ash changed from 20 per cent. to ¼ of a cent, as in House bill.

All coal tar colors or dyes, by whatever name known and not specially provided for in this act, changed from 20 to 25 per cent., House bill, 20 per cent.

In paragraph 36 reading as follows: Blanc-fixe, or satin white, or artificial sulphate of barytes, 25 per cent. ad valorem, after the word "barytes" insert "and artificial sulphite of lime."

Certain parts of the blanket schedule, No. 282, stricken from the House bill, were restored, the paragraph now reading:

On blankets, hats of wool, and flannels for underwear, and felts for papermakers' use and printing machines, composed wholly or in part of wool, the hair of the camel, goat, alpaca, or other animals, valued at not more than 30 cents per pound, 25 per cent. ad valorem; valued at more than 30 and not more than 40 cents per pound, 30 per cent. ad valorem; valued at more than 40 cents per pound, 35 per cent. ad valorem. Provided, That on blankets over 3 yards in length the same duties shall be paid as on woolen and worsted cloths, and on flannels weighing over 4 ounces per square yard, the same duties as on dress goods.

Printing paper, unsized, sized or glued, suitable only for books and newspapers, increased from 10 to 15 per cent., as in the House bill.

Paragraph 308, referring to parchment papers, has been changed to read as follows:

Parchment papers and surface coated papers, and manufactures thereof, cardboards and photograph, autograph and scrap albums, wholly or partially manufactured, 30 per cent. ad valorem.

Umbrellas, covered with paper or other material, 35 per cent., are stricken from the schedule imposing a duty of 45 per cent. on wool or silk umbrellas.

Personals.

George W. Millar, of G. W. Millar & Co., and wife, who have been on a two months jaunt abroad, arrived home on the Majestic last Wednesday.

R. W. Potter, of the H. T. Watson Company, Erie, Pa., who with his wife, has been on a European trip, arrived home last Wednesday on the Majestic.

H. E. J. Irons, late chemist to the Glen Manufacturing Company, Berlin, N. H., has severed his connection with that company and returned to the Burgess Sulphite Company's mill, in the same town.

William Merrill, lately retired from the position of superintendent of the Forest City Paper Company's mill, at Yarmouth, Me., was presented, by the employees of the company, with a gold headed cane.

Fires.

The office of the *Herald*, Hammondsport, N. Y., was destroyed by fire on May 8.

Bonner, Preston & Co., dealers in wall papers, &c., Hartford, Conn., have had a loss by fire; insured.

William Smith's Sons, manufacturers of paper boxes, &c., Philadelphia, Pa., have been burned out; insured.

Korff Brothers, lithographers, 161 Washington street, New York, were burned out on May 5. Loss, $4,000.

The main building of the Dominion Paper Company's mill, at Kinsey Falls, Quebec, was destroyed by fire May 9. Loss, $75,000; insurance, $88,500. The outbuildings were saved.

A fire occurred on the night of May 3 in the stock house of Keeney Brothers, paper makers, Manchester, Conn. When discovered the fire was already burning fiercely. The burned building was 40x60, and was packed with the best paper stock. Quantities of stock stacked near the building were burned also. This is twice within a month that the stock has been on fire. The loss is estimated at $3,000, but it is almost covered by insurance.

Knorr & Co., manufacturers of cardboard, 244 Fifty-fourth street, Brooklyn, N. Y., were burned out on Tuesday morning, May 8. Loss, $8,000. C. C. Hopkins, manufacturer of photographic materials, owned the building and occupied a portion of it, together with 297 and 299 Fifty-third street. Both buildings were destroyed. Mr. Hopkins' loss was placed at $25,500.

Obituary.

CHARLES E. FITCH.

Charles E. Fitch, who died this week, was born in Syracuse on December 3, 1835. He was educated in private schools, and in 1855 was graduated from Williams College. He studied law in Syracuse and in the University of Albany, receiving the degree of LL.B. in 1859. He practiced law in Syracuse until July, 1864, from which time until May, 1865, he was clerk of the Provost Court established at New Berne, N. C., by General Butler. He returned to Syracuse, and May 10, 1866, took editorial charge of the Syracuse *Standard*. He remained there until June, 1873.

In that year he published the Syracuse *Sunday Herald*. He became managing editor of the Rochester *Democrat and Chronicle* in November, 1873. He resigned in 1890 to become Collector of Internal Revenue in the Twenty-eighth District of New York.

The problem of how to extract the stored up power in coal without burning it is of the first importance to the whole future of physical and mechanical science. It is generally admitted that the very best designed furnace is but a lame and most wasteful way of utilizing the vast reservoir of potential work in a ton of coal. The leading chemists and professors of science are aware of the magnitude and importance of this problem, and no doubt many able and competent brains are now at work upon it. The question, says H. Elsdale, in the *Contemporary Review*, amounts to this: How can we best by some simple and practical process reduce coal to a condition in which it will, when brought into conjunction with the inexhaustible reservoir of oxygen in the atmosphere, give us the necessary elements for the production of an electric battery? The successful solution of this problem will constitute a new era in science, and lead to results of vast and incalculable importance in the future.

THE "Hamilton" Felt.

"Best and Most Economical Made."

Among the Score

of Felts offered to the trade, the "Hamilton" stands without a peer. Thoroughly reliable, it is sold at the same prices as inferior makes. Lots of Felts, but only one "Hamilton."

In ordering mention kind of stock used, quality of paper made and speed of machine.

Shuler & Benninghofen, Hamilton, Ohio.

The W. S. Tyler Wire Works Co.,

CLEVELAND, OHIO.

MANUFACTURERS OF

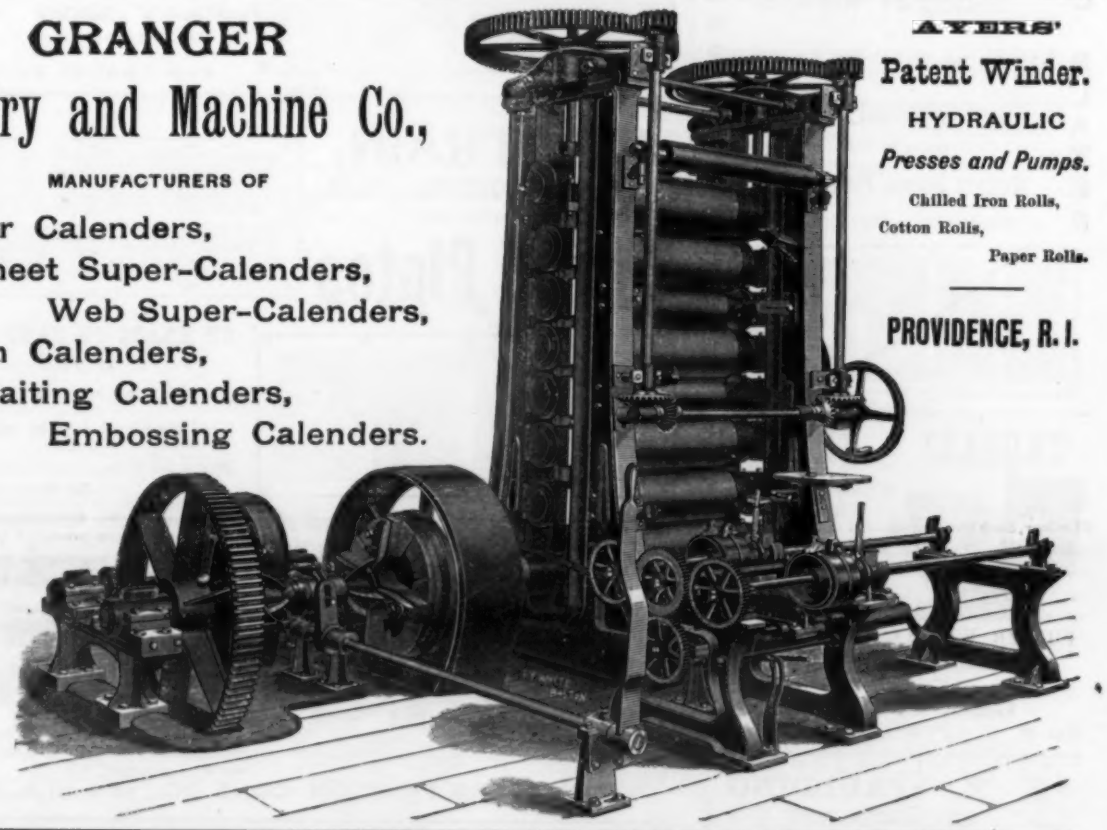
FOURDRINIER WIRES,

Cylinder Faces and Washer Wires.

GRANGER Foundry and Machine Co.,

MANUFACTURERS OF

Breaker Calenders,
Sheet Super-Calenders,
Web Super-Calenders,
Friction Calenders,
Plaiting Calenders,
Embossing Calenders.



AYERS' Patent Winder.

HYDRAULIC Presses and Pumps.

Chilled Iron Rolls,
Cotton Rolls,
Paper Rolls.

PROVIDENCE, R. I.

The American Talc Co.,

MANUFACTURERS OF A

SUPERIOR QUALITY OF MINERAL PULP OF ALL GRADES,

PROVIDENCE, R. I.

Mines and Mill: FOWLER, N. Y. { Telegraph Address: GOUVERNEUR, N. Y.

NEW MILL. LATEST MACHINERY. STEAM POWER.

THE GENERAL FIRE EXTINGUISHER COMPANY,

CONTROLLING THE INVENTIONS AND APPARATUS PERTAINING TO AUTOMATIC SPRINKLERS OF

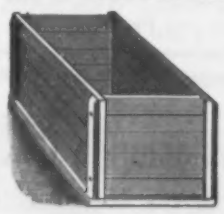
Frederick Grinnell, William Neracher, John Hill, William Kane and others.

INFORMATION AND PROPOSALS FURNISHED AT THE SEVERAL DEPARTMENT AGENCIES, NAMELY:

NEW YORK: 413 Broadway.
PHILADELPHIA: Mutual Life Building.
CHICAGO: 226 La Salle Street.
CLEVELAND: Society for Savings Building.
BOSTON: 173 Devonshire Street.
BUFFALO: City Bank Building.
ST. LOUIS: 710 Odd Fellows Building.
Also at WARREN, OHIO, and COLUMBUS, GA.

AND AT THE

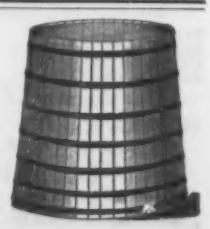
EXECUTIVE OFFICES, PROVIDENCE, R. I.



GEO. WOOLFORD, Manufacturer of all kinds of CEDAR TUBS FOR PAPER MILL WORK, DRAINERS, STUFF CHESTS, WATER TANKS, &c.

In sending for estimates state if measurements are inside or outside and thickness of wood desired.

2240-42-44-46-48 North Ninth St., PHILADELPHIA, PA.



(*Continued from page 439.*)

tion, and requesting him to veto the same, their provisions all being hostile to the interests of the water power owners and favoring one or two individual interests.

Thus at once the growing necessity for regular organization, in view of the increasing value of the power on Black River, was significantly demonstrated.

The meeting adjourned with expressions on the part of all present of the great desirability of united action as proposed, and with a firm belief in the great benefit which will be derived from a careful use and control of the reservoir dams.

The membership fee is placed at only $2, without annual dues. It is hoped that every individual water power owner, lessee or stockholder in any corporation owning power will join the association, all being eligible, that by a strong organization the welfare of this entire section may be bettered.

The result will soon be demonstrated. The many sanguine believers in the reservoir dams predict that the power of the river by the use of three reservoirs will be increased from 30 to 50 per cent. during the summer months.

The commissioners are well organized, and receive daily reports from the two gate tenders who are located at their respective dams.

The widow of the late talc king, Col. Henry Palmer, has settled his estate at Gouverneur and has returned home. The colonel was familiarly known as the "Father of the Talc Industry." He died in June, 1893, and his wife, whom he had not seen in many years, appeared and took up her residence at Gouverneur, placed $109,000 in the two banks and began a settlement of her husband's estate. All claims were paid, except one of A. McCrea, Jr., for $10,000. This gave promise of a bitter contest, but, to the surprise of all, just before it came to trial, it was withdrawn and the announcement was made that Mrs. Palmer had compromised on the payment of part of the claim.

That much mooted claim of Attorney E. C. Emerson in the Brownville Box and Paper Company receivership case has been settled by Judge Williams allowing the bill in full and discharging Richard H. Huntington as receiver of the company. THE PAPER TRADE JOURNAL told how a referee was appointed to take proof in regard to Mr. Emerson's bill. The referee, H. L. Hooker, took the evidence of several lawyers, who testified that Mr. Emerson should have charged $100 more. He reported this and the judge directed a verdict in full. The referee's bill of $30 must be paid by the company. W. E. T.

Mortgages, Etc.

[In the appended list R. signifies a renewal of a pre-existing mortgage; B. S., bill of sale; T. D., trust deed, and Real, a mortgage on real estate.]

EASTERN STATES.

Mortgagor.	*Amount.*
James M. Fernald, Lewiston, Me.	$1
Francis P. Hathaway, Boston, Mass.	1,000

MIDDLE STATES.

The *Evening Standard* Publishing Company, Troy, N. Y.	4,100

WESTERN STATES.

Susan Irwin (*Chronicle*), Bowen, Ill.	188
M. C. P. Parker, Indianapolis, Ind.	2,400
W. M. Brackett (*Democrat*), Garner, Ia.	500
S. W. Kiner, Ida Grove, Ia.	200
William H. Eck, Pleasant Plain, Ia. (B. S.)	50
D. W. Evans, Pulaski, Ia.	130
Canutt & Son (*Republican*), Kansas City, Kan.	375
John A. Andrews, Benkleman, Neb.	280
E. F. Sharts, Humboldt, Neb. (Real).	664
A. C. and Mrs. J. E. Royer, Lincoln, Neb.	125
G. J. Warren (*Argus*), Red Cloud, Neb.	316
G. J. Warren (*Argus*), Red Cloud, Neb. (B. S.)	1,350
The Cincinnati *Zeitung* Publishing Company, Cincinnati, Ohio (R.)	300
A. D. Pelton et ux. (A. D. Pelton & Co.), Toledo, Ohio (Real)	400
Ernest Reeves et ux. (the Ernest Reeves Company), Toledo, Ohio (Real)	1,300
M. P. Stephens, Harrington, Wash.	200
Partridge & Newman, Seattle, Wash. (B. S.)	1
F. J. Parker, Walla Walla, Wash. (Real)	2,500

SOUTHERN STATES.

J. A. Sturgis, Pineville, Mo.	120
Hagard & Cameron (*News* Publishing Company), St. Louis, Mo.	215

LIENS DISCHARGED.

Carrie M. G. Johnson, Fall River, Mass.	850

The new domestic money order forms which have been issued by the post office department are quite different from the old forms, the new having a coupon with marginal check, the coupon to be forwarded to the auditor for the post office department once a week. The order and advice are both printed on the same sheet and are more elaborate than the old form. On the face of the new form a space is provided for the transfer of the order by the payee to a second person, and the name of the payee is inserted in the body of the order by the issuing postmaster. A metal cutter is furnished with the forms for detaching the coupons, which run from 9 cents to $100, the smaller figures being necessary in various combinations. The new forms will be gradually introduced until June 30, when the last of the old forms will be used.

A Suit Over Bagging.

George W. Millar & Co. have brought suit against E. M. & C. J. Rourke, of Manchester, England, in the Supreme Court, to recover $1,000 alleged damages because of wet bagging.

According to the plaintiffs' story, told through E. W. Taylor, the head of the stock department of George W. Millar & Co., they in January, 1894, purchased of the defendants 100 tons of gunny bagging to be sent over in three shipments, they in turn selling it to the Wabash Paper Company, of Wabash, Ind. The Wabash Paper Company claimed the bagging was wet, some lots showing 38 per cent. of moisture and others 33 per cent., the average being 15 per cent. The Wabash Paper Company wrote letters to the plaintiffs in which it alleged that the bagging was systematically watered.

E. W. Taylor, for the plaintiffs, states that he purchased the bagging of the defendants in January, it to be sent in three shipments. "When it arrived here," he said, "I examined it, and it was apparently all right, so far as the outside of the bales showed. I could not examine the interior of the bales of course. The buyer sent me tests showing 38 per cent. of moisture in some cases, and 33 per cent. in others. Then the whole lot was thoroughly examined, and it showed an average moisture of 15 per cent. Mr. Rourke came over here, and I proposed that we should go out to the mill, the loser to pay the expenses. He did not make any response to that offer."

E. M. Rourke, one of the defendants, who is now in this country, when asked about the case said: "It most assuredly cannot be our bagging. It must have been mixed with some other lot. We sold 100 tons to George W. Millar & Co. in January, to be shipped in three lots, and as there was a caution with it, we gave it particular oversight, and are very certain that our bagging is not wet. We never pack bagging damp, and this is the first claim of the kind we have had since we have been in business, now a period of five and a half years. I have written to my brother in Manchester in regard to the matter and am now awaiting advices. I am sure it is not our bagging, however, for we have done business right, and never pack our bagging damp."

In respect to this suit the following communication has been sent to THE PAPER TRADE JOURNAL:

NEW YORK, May 11, 1894.

Editor of The Paper Trade Journal:

With regard to the suit which G. W. Millar & Co. have entered against my firm, I would say that the bagging was shipped by us in good, dry condition from our side. We have shipped very large quantities to this country, and several highly respectable importing and manufacturing firms can testify to the good quality and dry condition in which they have received this stock. I am waiting further information from my firm in England before taking any active steps in the matter. In the meantime I have placed it in the hands of a lawyer to protect our interests. E. M. ROURKE.

Legal Decisions.

Overdraft of Firm Cannot Be Charged to Individual Account of Partner.—If the overdraft of a firm of which one was a member was paid by the bank after the balance was drawn out, it not appearing that the bank had any notice of the dissolution, such overdraft could be recovered by the bank out of the partner as a member of the firm. If, at the time he drew a check for the balance which the cashier told him was due the firm, in fact there was less due the firm, it was equally an overdraft, by mutual mistake of the parties, and the bank could recover it back from him as a member of the firm; but the bank had no right to charge up against the individual account of a member of a partnership a balance due it on the firm's account. Such right of set off only exists between the same parties, and in the same right. The bank has no lien on the deposit of a partner for a balance due from the partnership. The reason is "it is of the nature and essence of transactions between banker and customer that a customer, having a balance in the hands of his banker, should have full power over it, and be able to command payment at sight. If, where there is an account between a firm and a bank, and another account with one particular member of the firm, it be once held that the bank has a lien upon the balance due upon the separate account of the individual partner for a balance due to the bank from the firm, there would be an end to some transactions which it is most important to commerce should be continued." Inasmuch as the members of the partnership can draw in the firm name, if their overdrafts can be instantly charged up against the individual account of a member of a firm, no partner would be safe in keeping his private account in the same bank where the partnership account is kept. Otherwise, his private funds, deposited perhaps for special engagements he may have in view, would be liable at any time to be swept away by checks drawn by another for his personal ends, but in the name of the firm, and the partner's checks on his private account would go to protest, to his damage and inconvenience. Then, too, in case of insolvency and an assignment by the partner or of the partnership, his available cash could be subject to appropriation by the bank in this shorthand mode to his partnership liability, notwithstanding his or the firm's election in the deed of assignment to prefer another, or to share the assets pro rata; and this, also, would deprive the individual partner, having a sum to his credit, using it as his personal exemption as against the indebtedness of the partnership to the bank.—*Adams v. First National Bank of Winston, Supreme Court of North Carolina, 18 S. E. Rep. 513 (488).*

Alloy of Aluminum and Nickel.

At the last monthly meeting of engineers in New York, some specimens of a new alloy of aluminum and nickel were exhibited which were remarkable. They were sent in by A. E. Hunt, of Pittsburg, and both were in the form of rolled sheets one-quarter of an inch thick. In one of these a hole about five-eighths of an inch in diameter had been drifted out to about 2 inches diameter cold, and the other, which was a strip about 3 inches wide, 24 inches long had been bent at the middle, the deflection amounting to about 2 inches.

It was stated that the force required to do this bending had been about the same as is required to similarly bend a similar piece of 90,000 pound steel, and when the specimen was placed upon the floor and stood upon by C. W. Hunt until straightened, it immediately resumed its former shape upon being released; in other words, it seemed to be perfectly elastic within the limits named. The alloy is of a beautiful white color and of remarkably light weight. No information was given as to the proportions of aluminum and nickel in the alloy, but it probably contains only a small percentage of the latter, and so far as could be judged it bids fair to be an important alloy in cases where lightness and strength are especially desired.—*American Machinist.*

Defective Riveting.

The driving of rivets is such a comparatively simple operation that it might be supposed that it would be almost always well done. This is far from being the fact, however, and bad riveting is one of the commonest defects reported by our inspectors. The rivets may be too short, or too long, or too small; they may have heads that are too flat, or they may have projecting "fins," or they may not fill the holes, or the holes may not come "fair" with one another. There are many ways in which riveting may be bad.

A case which recently came to our notice seems to deserve special mention. The rivets in question were in a vertical pulp digester, 10 feet in diameter and 30 feet high, which was to be so constructed as to be safe under a pressure of 90 pounds to the square inch. The plates were of steel, five-eighths of an inch thick, united by lap joints, which were triple riveted on the straight joints, and double riveted on the girth joints. The pitch of the rivets in each case was 3½ inches, and the distance between the parallel rows was 2 inches. The rivets were three-quarters of an inch in diameter.

Before the digester was accepted we were called upon to inspect it and pronounce upon its safety. The inspector found the rivets "driven very low"—that is, the heads were entirely too flat. He had a number of these rivets taken out, and found that the holes in the two sheets did not come opposite one another fairly. This defect is common and it is very serious, both because it reduces the shearing area of the rivet and because it greatly increases the difficulty of making the rivets fill the holes perfectly. A shop which turns out work of this kind is particularly censurable, not only because the work itself is poor and weak, but also because the defect is not easy to discover after the rivets are in place, and the owner of the boiler is therefore likely to be deceived by a fair external appearance, and to carry more pressure than the boiler can safely withstand.

The inspector also found that the heads were not driven evenly over the holes, the centres of the heads often lying well toward the side of the rivet. This defect, although not so dangerous as the unfairness of the holes, would not be tolerated in a good shop having any pretentions to turning out first-class work. It is very easily detected, even by one who has had little experience in inspecting; and there is no excuse for it whatever. The rivet holes were not countersunk, as they should be in all good work; and, taking everything into consideration, we think this case presented the finest example of notoriously bad work that we have seen in some time. The only thing that could be done to it, in the way of improvement, would be to cut out all the rivets, ream out the holes until they should be true, and rivet them up again with larger rivets. The most reprehensible thing about the job, perhaps, is that the builder used rivets which he knew to be too short. At least, we presume he knew them to be so, for anyone who had the smallest idea about the business would know it. A boiler 10 feet in diameter, to carry 90 pounds of steam, and with five or six men working about it, cannot be built too carefully; and any such reckless performance as putting in rivets that are too short and too small comes dangerously near being criminal negligence.

The joint used in this digester is far from being beyond criticism. To begin with, a lap joint should not be used at all; a butt joint would be much safer and better in every way. Taking the tensile strength of the plate at 60,000 pounds per square inch, and the shearing strength of the rivets at 38,000 pounds per square inch, a little calculation will show that in the joint which was actually used the rivet area is far too small, so that, with three-quarter inch rivets and a factor of safety of 5, the safe working pressure is only about 56 pounds. If a triple riveted lap joint were to be used at all the rivets should be an inch in diameter (holes 1 1/8 inches), and the pitch should be about 3¾ inches. This joint gives an efficiency of 72 per cent., and a safe working pressure (with a factor of 5) of just 90 pounds per square inch; but a double welt butt joint is the proper thing for this case.—*Locomotive.*

Remedy Against Dampness.

Silvester's process for making walls proof against dampness consists in using two washes or solutions for covering the surface of the walls—one composed of castile soap and water and one of alum and water. The proportions are three-quarters of a pound of soap to one gallon of water, and half a pound of alum to four gallons of water, both substances to be perfectly dissolved in water before being used. The walls should be perfectly clean and dry and the temperature of the air not above 50° Fahr. when the compositions are applied. The first, or soap wash should be laid on when boiling hot with a flat brush, taking care to form a froth on the brickwork.

This wash should remain twenty-four hours, so as to become dry and hard before the second, or alum wash is applied, which should be done in the same manner as the first. The temperature of this wash when applied, may be 60° or 70° Fahr., and this also should remain twenty-four hours before a second coat of the soap wash is put on. These coats are to be applied alternately until the walls are made impervious to water. The alum and soap thus combined form an insoluble compound, filling the pores of the masonry and entirely preventing the water from entering the wall.—*Architect and Builder.*

Effect of Electricity on Steam.

At a recent meeting of the Royal Society of Great Britain, J. J. Thomson described the following experiment, showing the effect of electricity on steam: A current of steam was passed through the middle limb of a T tube, the closed side limbs of which were furnished with delivery tubes and also with gold or platinum electrodes, between which sparks might be passed through the steam. The delivery tubes conducted the gases into two eudiometers, in which the gaseous mixture, formed on passage of the sparks, was exploded.

When the sparks were from 1.5 to 4 millimetres long it was observed that within the limit of error of the experiment the volumes of the excess of hydrogen in the one tube and of oxygen in the other, which remain after the explosion of the mixed gases, are respectively equal to the volumes of the hydrogen and oxygen liberated in a water voltmeter placed in series with the steam tube, and that the excess of hydrogen appears in the tube which is in connection with the positive electrode, the excess of oxygen in the tube which is in connection with the negative electrode.

When the spark length is greater than 4 millimetres the first of the preceding results ceases to hold out, and when the spark length is increased over 11 millimeters the excess of hydrogen, instead of appearing at the positive electrode changes over to the negative, the excess of oxygen at the same time going over from the negative to the positive electrode. When the sparks are very much longer, about 22 millimetres, reversal again takes place, the hydrogen appearing at the positive electrode. The author finds that when the arc discharge passes through hydrogen and oxygen respectively the hydrogen behaves as if it had a negative charge and the oxygen as if it had a positive one.—*Industrial World.*

In Town.

T. L. Stevens, North Hoosick, N. Y.; E. R. Redhead, Fulton, N. Y.; W. O. Russell, Lawrence, Mass.; R. W. Potter and H. F. Watson, Erie, Pa.; J. A. Kimberly, Appleton, Wis.

Supplies—Bureau of Engraving and Printing.

Bids for supplies for the Bureau of Engraving and Printing were opened at Washington on Monday, May 7. Following is a list of bidders, items and prices on

PAPER.

Bidder 1. Adams-Bishop Company, New York city.

2. Peter Adams Company, New York city.

3. J. C. Addison, Washington, D. C.

4. A. Balfour, Philadelphia.

5. E. R. Bulkeley, Philadelphia.

6. J. Campbell & Co., New York city.

7. Conrow Brothers, New York city.

8. Crane & Co., Dalton, Mass.

9. Dobler & Mudge, Baltimore, Md.

10. Easton & Rupp, Washington, D. C.

11. A. G. Elliot & Co., Philadelphia.

12. Fairchild Paper Company, Boston.

13. G. C. Gill Paper Company, Holyoke, Mass.

14. H. Griffin & Sons, New York city.

15. S. M. Kennedy & Co., Philadelphia.

16. The New York Paper Company, New York city.

17. T. S. Safford, Camden, N. J.

18. C. M. Stoever, Philadelphia.

19. Train, Smith & Co., Boston, Mass.

20. F. R. Walker & Co., New York city.

21. Woolworth & Graham, New York city.

ITEMS.

Item 1. 5 rms. plate, 24x32, 150 lb., bidder 2, 16c.; 3, 12½c.; 7, 10c., 9c. less 3 per cent.; 11, 16¾c.

2. 10,000 lbs. pressboard, American, bidder 7, 6¾c., 9c., 6¾c., less 10 per cent., 9c. less 10 per cent; 9, 8½c.; .09c., .0625c., .062c., .0575c.; 14, 7¼c.; 15, .099c., 9⅞c., 9½c., 8c.; 18, 7c.; 21, 6½c., 6½c., 8½c., 9½c., 9¾c.

3. 250 rms. manilla, 30x40, 50 lb., strong fibre, bidder 3, 7½c.; 5, 3 6-10c.; 7, 5¼c., 7c., 5¼c. less 5 per cent., 7c. less 5 per cent.; 9, .028c., .039c., .0475c.; 10, .039c., 3½c.; 11, 4½c.; 15, 7½c., 6½c., 5c.; 17, 5½c., 6¼c.; 18, .044c.; 20, 4¼c.; 21, 5c.

4. Do. 50 rms. 80 lb., bidder 3, 7½c.; 5, 3 6-10c.; 7, 5¼c., 7c., 5¼c. less 5 per cent., 7c. less 5 per cent.; 9, .038c., .039c., .0475c.; 10, .039c, 2½c.; 11, 4½c.; 15, 4¼c.; 18, .047c.; 20, 4¾c.; 21, 4¾c.

5. Do. 3 rms. 100 lb., bidder 5, 3 6-10c. per lb.; 9, .038c., .039c., .0475c.; 10, .039c., .0475c.; 10, .039c., 5¼c.; 15, 5½c.; 18, .047c.; 20, 4¼c.; 21, 4¾c.

6. 5 rms. manilla, 30x40, 170 lb., bidder 5, 3 8-10c. per lb.; 9, .039c., .0475c., 6c., 7c.; 10, .049c.; 11, 4¼c.; 15, 4½c.; 18, 47c.; 20, 4¼c.; 21, 5½c.

7. 14 rms. manilla, 30x40, 235 lb., bidder 5, 3 8-10c. per lb.; 10, .049c.; 11, 4¼c.; 15, 4½c.; 18, .037c.; 20, 4¼c.; 21, 5½c.

8. 1 rm. white record, bidder 3, 17c.; 9, 11c., 15c., 13c., 14c., 18c.; 10, 17c.; 11, 14¾c.

9. 10 rms. writing, white wove medium bidder 3, 12c. per lb.; 9, 8c., 13c., 11c., 18c.; 10, 9c.; 11, 10c.

10. 1 rm. black glazed, 20x24, no bids.

11. 20 rms. book, 26x40, 35 lbs. bidder 3, $1.49 per rm.; 7, $1.25; 9, $1.60, $1.40, $1.05; 11, $1.48; 15, $1.50; 11, .039c.

12. 1 rm. book, 24x38, 60 lb., bidder 3, $2.55 per rm.; 9, $3; 10, 5¼c.; 15, $3.

13. 5 rms. marble, 18½x29½, bidder 5, $3.30 per rm.; 14, $3.50; 21, $3.50.

14. 50 rms. red glazed, 20x30, bidder 4, 24 lbs., $1.68 per rm.; 5, $1.25; 9, $2; 20, $6.50.

15. 600 rms. shoe manilla, 11x15, bidder 5, 9c. per rm.; 9, .095c.; 10, 8c., 9¼c.; 15, 11¼c.; 18, 10½c.

16. 1 rm. white tissue, 24x36, bidder 5, 80c. per rm.

17. 10 rms. Whiting's paper, 14x17, bidder 5, $2.50 per rm.; 9, $2.15; 18, 10c.

18. 12 sheets Reynolds' bristol board, 18¼x22⅛, bidder 10, 20c. per sheet.

19. 1 ton strawboard, 26x38, bidder 9, $35 per ton; 15, $35.

20. 1 ton tarboard, 22x28, bidder 9, $43 per ton: 21, $46, $55.

21. 5,000 to 50,000 sheets bond and parchment, white, bidder 6, 50 per cent. discount; 7, 40 per cent.; 9, 50 per cent.; 15, 10 per cent.; 21, 60 per cent.

22. 5,000 sheets bond, colored, bidder 7, 50 per cent. discount; 8, 40 per cent.

23. 8,000,000 sheets printing, 18½x20¾, 30 lbs. to 1,000 sheets, bidder 1, $5.50; 4, $4.50, $4.25, $2.37 7-10c, $4; 7, $4.20, 3⅞c.; 9, $4.10, $4.40; 10, 6¼c.; 11, $4.20; 12, $5.25; 13, $5.25; 15, 4¼c; 16, $5.18, $3.90.; 19, $5.50; 20, $5.25; 21, $5.75.

PULP.

Bidder 1. N. Frank & Sons, Baltimore, Md., $9.50 per 1,000 lbs.

2. P. H. Glatfelter, Spring Forge, Pa., $10.

3. L. Hopfenmaier, Washington, $8.60.

4. E. R. Bulkeley, Philadelphia, $12.50.

WASTE MATERIAL.

Bidder 1. N. Frank & Sons, Baltimore, Md.

2. L. Hopfenmaier, Washington, D. C.

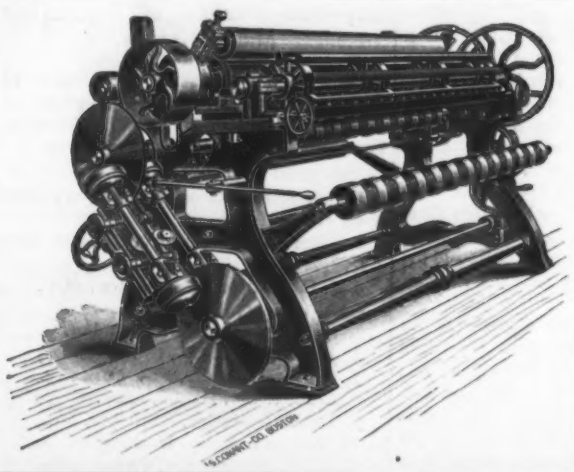
Item 1. 65,000 lbs. mixed paper, bidder 1, 17c. per 100 lbs.; 2, 28c.

2. 25,000 lbs. pressboard, bidder 1, 56c. per 100 lbs.; 2, 35c.

3. 5,000 lbs. strawboard and tarboard cuttings, bidder 1, 10c. per 100 lbs.; 2, 15c.

21. 100 lbs. burlap sacks, bidder 1, $1.50 per 100 lbs.; 2, $1.25.

22. 50 lbs. paper machine felting, bidder 1, $3 per 100 lbs.; 2, $2.



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MAINE—Umbagog Pulp Co., Livermore Falls, 2; Bangor Paper Co., Orono, 4; Jay Paper Co., Jay, 1; Rumford Paper Falls Paper Co., Rumford Falls, 20; Hollingsworth & Whitney, Gardiner, 1.

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WISCONSIN—Kaukauna Paper Co., Kaukauna, 1,

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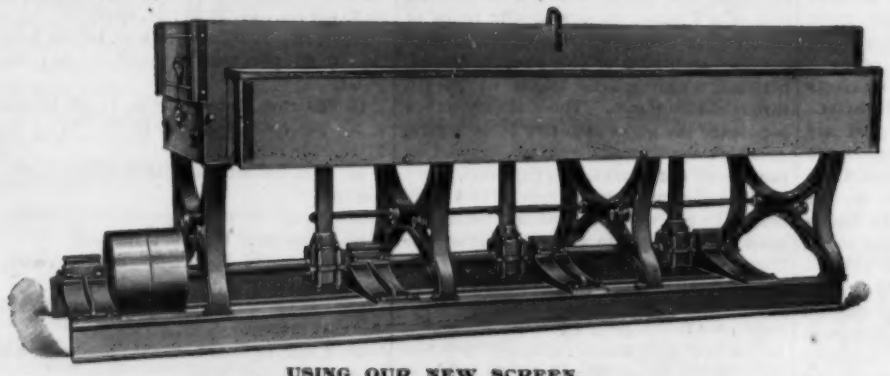

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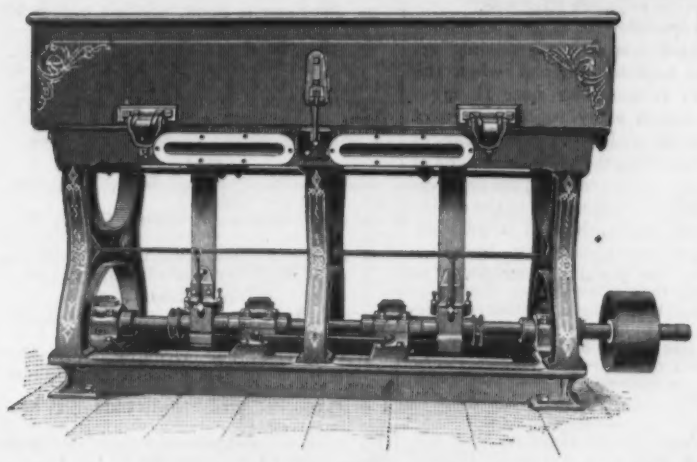

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IN 1873—twenty years ago—Carl Hofmann first published his ***TREATISE ON PAPER MAKING.*** He was then, and for some years had been, a practical paper maker in America. His experience in the trade abroad, as well as in this country, and his technical education and knowledge enabled him to be specially adapted for the work; hence "Hofmann's Treatise on Paper Making" took high rank at the start, and soon became *a* standard work on the subject throughout the world. It was published in English, German and French, and had wide sale in all three languages.

As years passed it became *the* standard work, and for the past decade copies have sold at large prices, often as high as $30 each, and occasionally for more money. The original book consisted of 422 pages, 8¼ by 11 inches in size.

Mr. Hofmann returned to Germany more than eighteen years ago and settled in Berlin. He established *The Papier Zeitung*, and in due course, about seven years ago, began to write his second and latest Treatise. Thus far he has printed and published probably 1,300 pages in German, and in parts of forty-eight pages, including cover, profusely illustrated by wood cuts. When finished the book will consist of about 1,600 pages (pages size same as in first book), illustrated by 1,500 wood cuts.

We have contracted to translate and publish the work in English in twenty parts, of about eighty pages each, at intervals of not less than sixty days, and at a cost of *one dollar cash, in advance, for each and every part.* When the enterprise is completed the twenty parts will sell, *unbound*, for *twenty dollars.* The binding will be extra. Subscribers can themselves have the parts bound, or have us bind them at extra expense; but it should be noted that no money will be saved by waiting until THE TREATISE is completed and bound.

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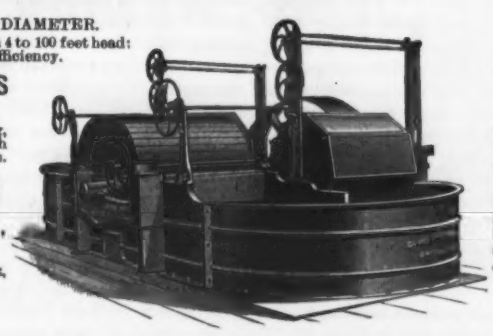

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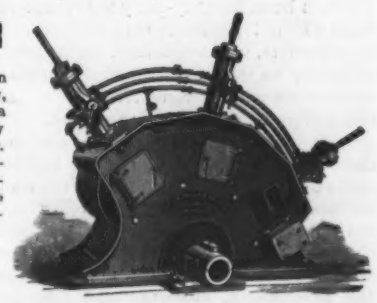

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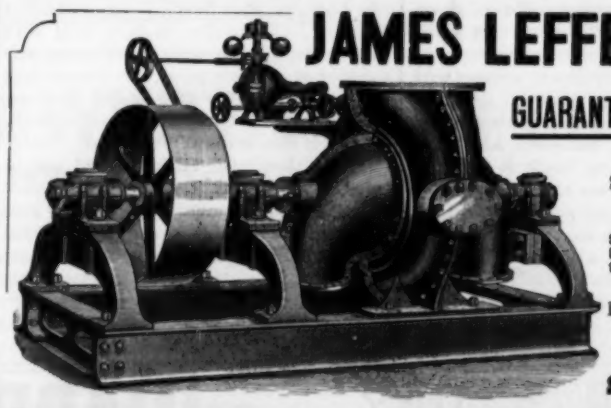

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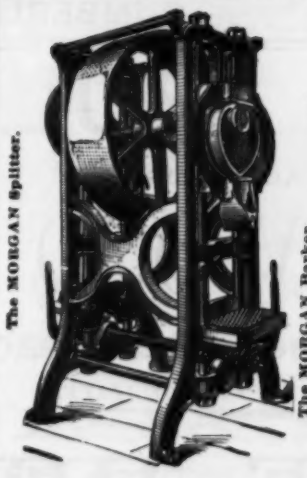

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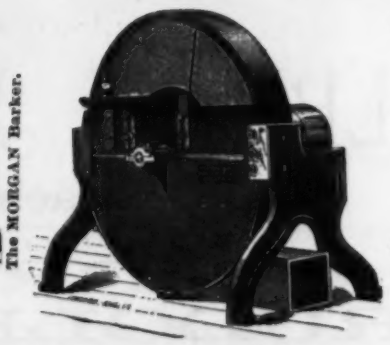

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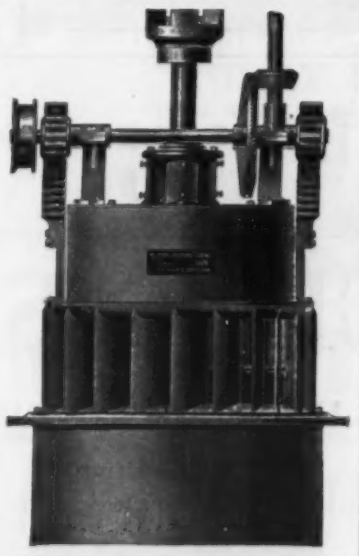

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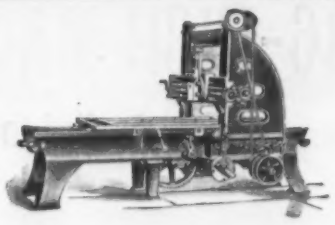

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The "Old Dominion."

SKETCH OF A WELL-KNOWN STEAMSHIP COMPANY.

It has been twenty-six years since the "Old Dominion" Steamship Company, as it now exists, was organized, and it is only necessary to go back over these years in order to see what a wonderful growth it has had under its present management. This growth is explainable on the evolution theory, the result of business methods made to conform to the times and the wants and interests of the public. Another factor not to be overlooked is the always strict courtesy with which everybody has been treated by the officers and employees, and the promptness, efficiency and care with which all business intrusted to it has been dispatched.

From a small beginning this company has been constantly obliged to increase its fleet of steamers in order to meet the demands which have been placed upon it by business men and pleasure seekers, until today it has eight first-class steamers running between New York and its several termini in the "Old Dominion." Up to the first part of the present year this fleet was composed of six steamers having an aggregate tonnage of 12,400 tons.

The names, commanders and tonnage of each of these steamers are as follows: Old Dominion, commanded by G. W. Couch, 2,200 tons; Wyanoke, commanded by A. A. Blakeman, 2,000 tons; Roanoke, commanded by R. B. Booz, 2,400 tons; Guyandotte, commanded by G. M. Walker, 2,400 tons; Richmond commanded, by J. P. N. Davis, 1,500 tons; City of Columbia, commanded by N. H. Jenny, 1,900. These steamers did not meet the demands placed upon them, and the necessity of making an addition had been recognized for some time, and resulted in two new steamers being placed upon the route this year, the Jamestown, which made her first trip in April, and the Yorktown, which followed with her first trip in May.

The Jamestown is commanded by J. G. Hulphers, and has a capacity of 3,000 tons, and the Yorktown by I. E. Dole, and is of 3,000 tons burden. They were built at the Chester shipyards and meet all expectations as to speed and everything which goes to make a first-class steamer. They run on the route to Old Point Comfort and Norfolk, and the usual time consumed in the trip has been twenty-four hours, but this was reduced by the Jamestown on her maiden trip to eighteen hours, an average speed of about 15 knots per hour. These steamers offer an excellence of service and a rate of speed said not to have been before attained by any line plying between New York and these two points, and without change or transfer. As these two ships are new the reader will be interested in a description of them.

The Jamestown has accommodations for 100 first-class passengers, and the cabin arrangements are such that those accustomed to the large ocean steamships with all their comforts will find little or no difference on the Jamestown with the exception of size. The staterooms are supplied with electric lights, call bells and running water; and in many of the rooms the upper berth folds up like those of a sleeping car, leaving the lower berth, which is large enough to accommodate two people. The ship is also supplied with the Universal electric fire alarm, which is connected with various parts of the ship where the cargo is stored; and in case of undue heat in any part of the ship arising from fire, it will be indicated in the engine room and located. All of the latest improvements for comfort and luxury are to be found on the ship. The saloon and cabins are wainscoted with solid mahogany and handsomely upholstered in blue plush. The carpets are fine Wilton and harmonize perfectly with the other fittings of the ship. It is the endeavor of the Company to have the cuisine as perfect as possible, and every luxury the market affords is served to passengers.

The Yorktown is 320 feet in length over all—beam of 40 feet, and 26 feet 9 inches depth of hold. The engines are of the triple expansion, condensing type, with cylinder diameters of 28, 44½ and 73 inches for the high, intermediate and low pressure respectively, and a common stroke of 54 inches. The propellers made of manganese bronze, and the vessel is expected to develop a speed of 16 knots an hour, and there are accommodations for 100 first-class passengers, forty steerage passengers, as well as accommodations for twenty of the crew in the forecastle.

A signal improvement in the construction of the Jamestown and Yorktown over most steamships is, that the two upper decks are built of steel, a great additional element of safety to cargo in case of fire, and absolutely insuring the safety of passengers. In the construction of these ships the first consideration has been their adaptability for the uses for which they are built, and first and foremost in this particular is stability—in other words, strength. Too much stress cannot be laid upon the importance of this, as, after all, safety is of primary importance, both as regards passengers, and also an important factor in the transportation of freight. The Yorktown has steel-pole masts, without superfluous spars and with sufficient sails only to take care of herself in heavy weather or in case of accident. Electric lights and bells are in every room. In addition to this, a Universal electric fire alarm is connected with parts of the ship where cargo is stored, and fire alarm plugs, twenty feet apart are connected with the same, and they directly with the engine room. In case of undue heat developing over 150°, such special part of the ship is immediately shown on the indicator, and the necessary steps are taken to discover its cause.

All the latest improvements for comfort and luxury are to be found on the Yorktown. The saloons and cabin are wainscoted with solid mahogany and upholstered in rich blue plush. The carpets are fine Wilton.

A trip by one of these steamers presents many advantages and holds out many allurements to the traveler. To Southern people coming North the advantage is that passengers leaving Norfolk in the morning will reach New York in time to connect with afternoon and evening boats and trains for all Northern and Eastern watering places and summer resorts, while the advantage offered to people going South is that this line takes its passengers to many points of interest which lie at or near the Virginian termini, among which are Fortress Monroe, Fort Wool, Hampton, a quaint old Virginia town, where are St. John's Church, built in 1660 and the oldest place of worship in use at the present time in America, and the Hampton Normal and Agricultural Institute. Here, too, are the far famed Virginia Beach and Richmond, the latter prominent as one of the most prosperous cities in the South, the capital of the State, the Confederate capital in 1861 and 1865, and abounding in stirring events and reminiscences of battlefields and fortifications of the "late unpleasantness."

Two descriptions of these trips are appended, the given cost of each of which includes everything — passage both ways, stateroom, meals, &c.:

No 1.

Three days' trip—OLD POINT COMFORT—Leave New York on steamships Jamestown or Yorktown on Tuesday, Thursday or Saturday; arrive at Old Point Comfort following morning; leave Old Point next afternoon at 4 P. M.; Norfolk 7:30 P. M.; arriving in New York, Friday, Sunday or Tuesday afternoon, $13.

No. 3.

Three days' trip—VIRGINIA BEACH, Va.—Leave New York on steamships Jamestown or Yorktown Tuesday, Thursday or Saturday; arrive Virginia Beach next morning. Leave Virginia Beach Thursday, Saturday or Monday afternoon, and Norfolk 7:30 P. M.; arrive New York, Friday, Sunday or Tuesday afternoon.....$13.50

Imagine yourself about to start on one of these trips on one of the steamers Jamestown or Yorktown. You leave the metropolitan pier on Saturday for instance, and come in view of the Virginian shore on the following morning. As the steamer enters the mouth of the Chesapeake Bay, passing Cape Charles and Cape Henry, Old Point Comfort appears immediately in the foreground. Approaching you first pass the Rip Raps, or Fort Wool, where President Andrew Jackson, after a long trial with office seekers, went from Washington with a supply of corncob pipes, old tobacco and whiskey to secure a few weeks' rest from the hungry horde which nearly bothered the life out of him at the White House. Tradition says that "Old Hickory" did not secure the anticipated peace, but was followed by some of these ambitious gentlemen even to his retreat in the sea. At Old Point Comfort is Fortress Monroe, while the town of Hampton is plainly in sight. Here is the negro and Indian college, which is celebrated the world over. Diagonally across is the city of Newport News, which is the terminal of the Chesapeake and Ohio Railroad; and to the left is Hampton Roads, the scene of so many naval battles during the late war, and which is crossed in going to Norfolk. The city of Norfolk is a seaport, and is an extremely interesting old place. It has all the features of a seaport, is on level ground very little higher than the water when the tide is in. This city has gained largely of late years, both in population and buildings in which a large diversity of modern architecture is to be noted.

Richmond is an inland city and, like Rome, is situated on seven hills. This city has also gained in wealth of late years, Midway between Richmond and Norfolk is the interesting old town of Williamsburg, on the north side of the James River and a few miles back from the water. Here Patrick Henry began life and Thomas Jefferson and John Randolph went to school. In going over this ground probably the better way is for the tourist to first go to Norfolk then take the day boat up the James River to Richmond, seeing all the historical points of interest. Then after spending a day or so in Richmond go back by rail to Williamsburg and spend a night there, going thence down to Old Point Comfort by rail, thence by steamer back to New York.

Coming Electricity at Duluth.

It is proposed to build at Cloquet, Minn., on the St. Louis River, a dam 900 feet long and 80 feet high, by which back water on the St. Louis will be extended 60 miles. A line of steel piping to the bills above Duluth will be laid, where a reservoir is to be built, whence, under a 600 foot head of power, electricity will be generated and distributed. Water will also be furnished for fire protection and, if wanted, for drinking purposes. This project is said to be well matured, has the consent of the War Department, controlling the river, and also of the sawmilling interests at Cloquet. It is stated that the money needed for the project, some $3,500,000, is secured. A large share of the Fond du Lac reservation, which is, however, valueless for timber or agricultural purposes, will be flooded. The completion of this scheme would create the largest dammed body of water in the world. —*Electricity.*

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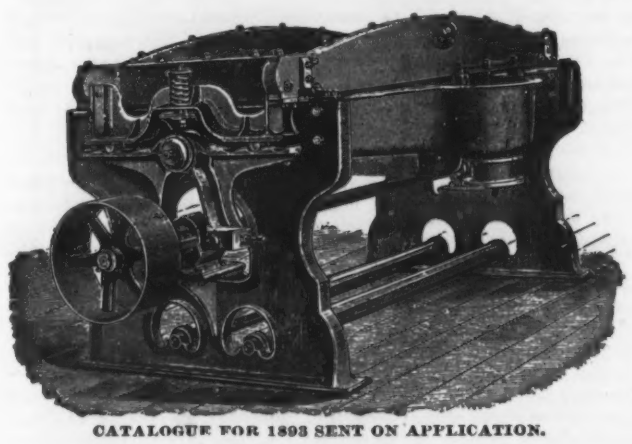

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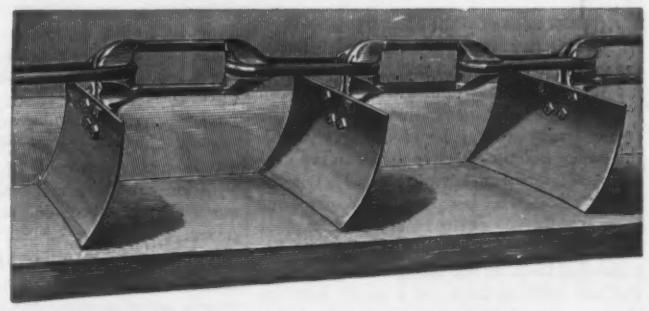

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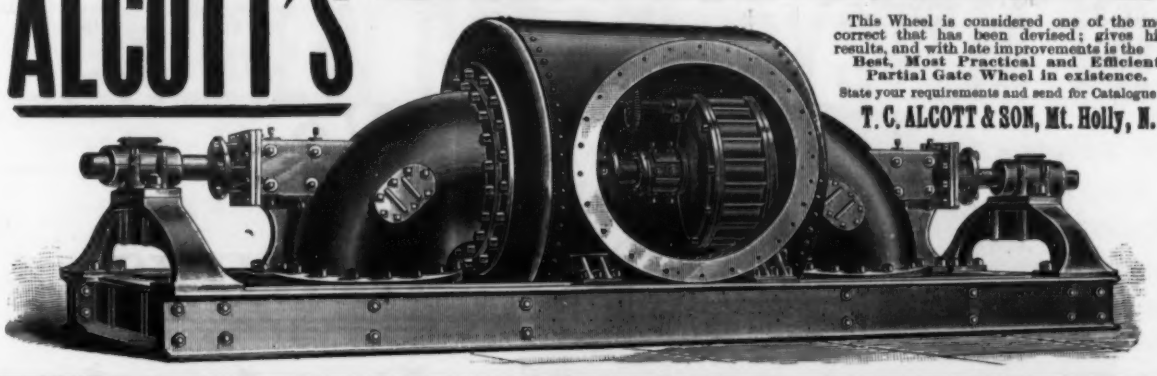

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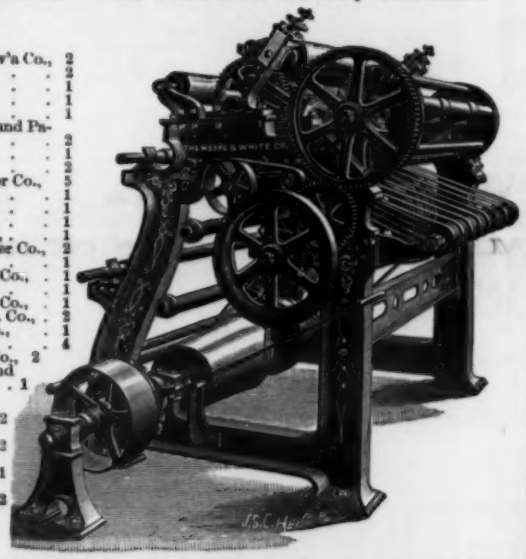

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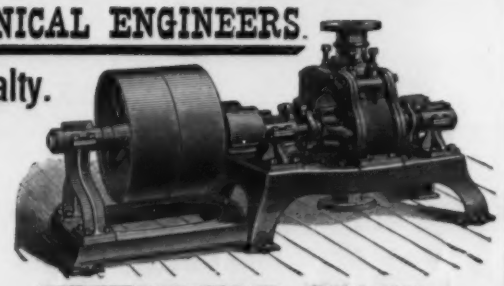

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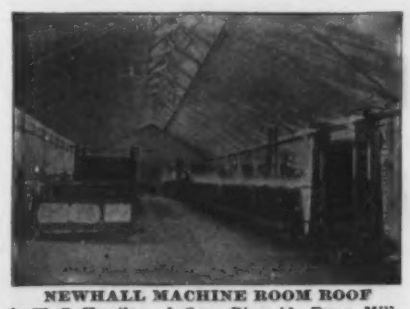

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Extracts from John's Letter.

[WRITTEN FOR THE PAPER TRADE JOURNAL.]

Mr. Editor:

After a sheet of paper has been formed on the cylinder molds of a cylinder paper machine the next important thing is to successfully conduct it over the suction boxes, if there be any, and then through the squeeze and press rolls of the wet part of the paper machine, delivering it to the dryers perfectly squeezed and pressed with as few felt marks as possible and ready to be dried. This part of the machine is the place where the machine builder has a good opportunity to show his ability, for in designing the various parts of a paper machine this one should receive particular attention, for if it is properly arranged in the beginning it will not need to be rearanged by the machine tender after it is once properly set in motion. So, too, it behooves the buyer of a machine to see that when buying a cylinder or other style of paper machine the wet part is constructed after the latest advanced ideas, and to have the machine built, and particularly this part of it, for the special kind of paper which it is desired to produce, and in no case to try to embody all of the merits and qualities of all kinds of paper machines, regardless of the work for which they were originally designed and built.

* * *

A question I have often asked myself, and one which has as often remained unanswered is, Why do not some of these paper makers who are buying paper machines and who want them to be odd and decidedly different from the general make up of machines owned and operated by some of their competitors do away with the upper second press roll, substituting in its place a dryer of medium size, say, one of 36 inches in diameter, which would answer and fulfill both the purpose of a second press roll and a dryer? This would be an innovation, combining efficiency and economy, and it would save several hundred dollars in the first cost of the paper machine. I happen to know a modest man who rigged up in this peculiar way a paper machine, which is now running and gives satisfaction.

Many a man has asked himself what constitutes a well constructed wet part of a cylinder machine for making heavy manilla papers or board; and as I have already described the mixing and vat parts of such a machine I shall proceed with the description of the squeeze and press parts of the wet part of McDougal's cylinder machine.

* * *

As the machine was wide it became necessary for the sake of stiffness and strength to make the rolls of large diameter, so the press rolls, of which there were two pairs, were made 18 inches in diameter and about 100 inches face. The squeeze rolls, of which there were five pairs, were 10 inches in diameter. They were all constructed of iron. All of the rolls, press and squeeze, were held in journal boxes, which could be easily and quickly removed and the other parts, such as felt rolls and their necessary journal boxes, were likewise constructed with this end in view, so that all could be easily and quickly removed and as easily and quickly replaced in an accurate manner when desired. In a properly designed and constructed paper machine, of whatever description it may be, this point and the advantages to be derived by its proper inception and completion, must never be lost sight of; for here is where much of the annoyance of a machine tender comes from, together with loss of time to the owner of the machine. It sometimes happens that when these points have been neglected or improperly designed the machine and its maker are condemned by the machine tender and owner, and in consequence the machine builder loses a friend, as well as a customer. The stands of the press rolls were strong and of such design and construction that the rolls could be quickly and easily lifted. The rolls were weighted by a system of compound levers and weights, which were applied in a position out of the way and could be quickly removed when occasion demanded for the purpose of clothing the machine. The press doctors were of the vibrating type driven from the rear of the machine; they were large and were so hung that the accumulated stuff could handily be taken away with ease. Right here I want to say that in a well planned paper machine the press stands should be constructed of such a shape that this can be done. Just look at some of the old-fashioned press stands and see how unhandy they are and in the way of getting the stuff off the press doctors; from their shape one would be led to suppose that their original designers tried themselves to see how unhandy they could be made. This reminds me that I was at —— the other day, and while there I was shown some drawings of an improved press stand which is to eclipse all others when it is brought out, for its excellence and ease of handling. Another little important matter as to press stands for the second press is that they shall be so constructed that the last paper roll next to the dryers can be adjusted for height, and it should be so hung as to be as low as possible for the convenience of the machine tender in passing the paper from the second press roll to the first paper roll on the dryers. A running board conveniently located between the press and dryers and which will swing out of the way when not in use would be an addition which I respectfully suggest to some machine builder who wants to improve.

* * *

The squeeze roll stands should have embodied in them all of the qualifications and points already mentioned for the press stands; that is, they should be specially designed for strength and convenience, with rapidity and ease of changing felts; they should be provided with levers and weights for increasing or diminishing the pressure on the rolls and stuff as the latter passes through them. A much neglected defect on the squeeze rolls of a paper machine is to so place and construct these parts that they will not be driven but will all run as idle rolls, depending on the felts to pull and apply the power necessary to drive. This should never be done; but, on the contrary, the under squeeze roll of each pair should be driven just as well as the press rolls, dryers and calenders, and a suitable drive should be conceived and applied when the machine is built. Many times the squeeze roll drive is left off as a matter of economy in the first cost of the machine, but the mill owner who does so pays pretty dear for it in the shape of felts which his machine will wear out. To present this idea more fully let me ask you to imagine a felt on a cylinder paper machine while at work continually pulling about forty felt rolls, each about 8 inches in diameter, four 30 inch diameter cylinder molds, four 15 inch couch rolls and two pairs of wooden and five pairs of iron squeeze rolls (ten in all), each of which will weigh somewhere near 800 pounds. Anyone with good sense can see that it is much cheaper to pay for a driving device which will last a lifetime to pull this load than it is to depend on and continually supply expensive felts to do just what a common, inexpensive driving device might accomplish at one-tenth of the cost. The felts near the whippers should be provided with an adjustable roll, by means of which the amount of beat of the whippers can be regulated to a nicety. Both ends of the roll could be set simultaneously from the front side of the paper machine, as also the stretchers.

* * *

The final placing and arranging of the various details after they are properly designed is one of the most important parts to be performed in building the wet part of a cylinder machine. McDougal realized this, and great care was taken to keep the cylinder vats as low as possible in their construction, as well as to place them as close to the floor as circumstances would permit, and to elevate the press and squeeze part somewhat higher than is ordinarily the practice, so that the machine to a casual observer had a rather peculiar appearance. The results sought were, to keep the line of the felt from where it left the cylinder vat part to where it was received by the first set of press rolls as near to a straight line (level) as possible, and to avoid any sharp turns by the felt which conveys the stuff, all for the express purpose of keeping the sheet from sliding off or wrinkling, and it will be found in actual practice that the nearer the straight line is preserved the more successful will be the machine.

JOHN.

Decreased Shipments of Heavy Chemicals.

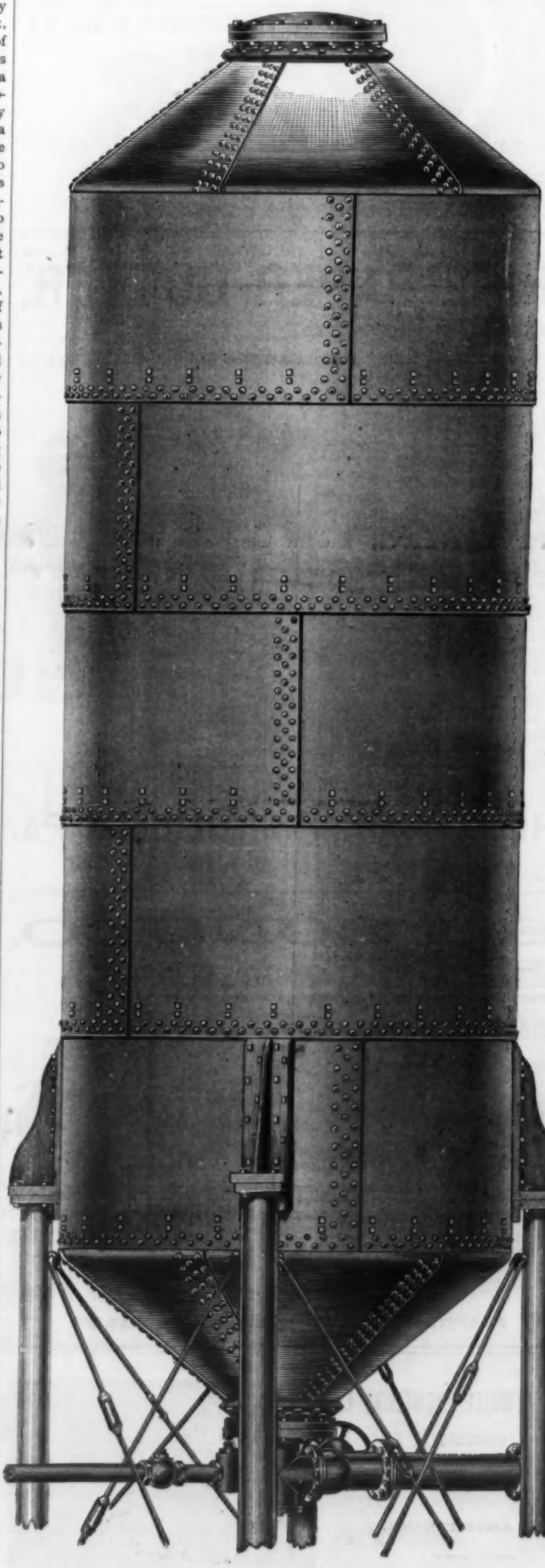
The reports of the shipments of heavy chemicals to the United States from Liverpool during the first quarter of the year, having recently come to hand, show the effects of the depression in business, which not only exists in this country but in all sections of the world. When the chemical market is dull and depressed it is certain evidence that all kindred trades are in the same dull condition, for the reason that chemicals enter so largely into all manufactures of the various industries. Stocks having accumulated so largely abroad, it is intimated that the various alkali makers are contemplating (if they have not already done so) a suspension of work for a fortnight or three weeks. In that case it means the throwing out of employment of thousands of workmen. The decrease in the shipments of carbonated soda ash to the United States during the quarter ending April 1 shows a decline of about 20 per cent. as compared with the same period in 1893. While the figures for alkali are not given, the impression is they also show a similar decline. The recent drop in the price of ammonia alkali has not stimulated buying on the part of consumers in any section of the world.

Caustic soda also shows a decline of 40 per cent. in shipments for the same period. There are various causes assigned for this decline, the chief one, no doubt, being traced to the large sales made of domestic make at low figures previous to the agreement of mutual understanding which was brought about early in the year among the makers. The consumption has also fallen pending tariff legislation, as few buyers care to increase their stocks without a duty clause protecting the buyer being inserted in the contracts. The unsettled condition of the glass trade in this country, arising not only from tariff legislation, but from excessive stocks being carried by manufacturers, caused by the falling off in new building enterprises throughout the country, has had a serious effect upon the consumption of foreign salt cake, the shipments of which for the past quarter show a decline of over 50 per cent. as compared for the same period of 1893.

The domestic makers have also felt the ill effects of the protracted shut down by the various glass plants, and in order to prevent any serious accumulation of stocks of salt cake, many have discontinued the making of muriatic acid. The sharp competition which has existed among the makers of domestic sal soda in the West, forcing prices down to a point below any ever known by consumers of this article, may be the chief cause of the large falling off in importations of foreign makes during the first quarter of the year, as compared with those during the same period of 1893, they having been over 55 per cent. smaller. Probably the real cause of this falling off in shipments of foreign sal soda to this country may be traced to the use of "carbonated crystal," which is largely taking the place of ordinary or commercial sal soda. While the shipments of bleaching powder show a slight falling off equal to about 25 per cent., the recent starting up of a large number of paper and other mills which consume vast quantities of this article, which have been shut down for a long period, will no doubt bring up the average during the next quarter, as stocks of prime hard wood makes are unusually light. With this exception the outlook for the consumption of heavy chemicals in this country for the next six months is anything but bright.—*Oil, Paint and Drug Reporter.*

Postmaster General Bissell has awarded the contract for supplying stamped envelopes to the Government for the next four years to James Purcell, of Hudson, N. Y., at his bid of $692,620 a year. It is said that the envelopes will be made by the Sheffield Manufacturing Company, Saugerties, N. Y.

Howard C. Park has been appointed receiver for the Central Press Association Company, publisher of the *Post-Press* newspaper, Columbus, Ohio. No statement of assets and liabilities was filed, but Pres. F. J. Wendell said that creditors will be paid in full.



We Always Doubted It.

William Tell did not found the Swiss Confederation, and the story of Gessler has no historic basis.

Wellington, at Waterloo, did not say, "Up guards, and at 'em!" The words were put into his mouth by an imaginative writer.

Cæsar did not say "Et tu, Brute." Eye-witnesses to the assassination deposed that "he died fighting, but silent like a wolf."

It is denied that lead was used in Sulphite Digesters prior to A. D. 1123

Richard III. was not a hunchback, but a soldier of fine form, some pretensions to good looks, and great personal strength and courage.

Pocahontas did not save the life of John Smith. It has been ascertained that this worthy man was the most able-bodied prevaricator in his century.

Nero was no monster. His mother, Agrippina, was not put to death by his order, nor did he play upon his harp and sing "The Burning of Troy" while Rome was on fire.

The Friend-Stebbins is not the only Digester made and never was, but it is about the only one that digests.

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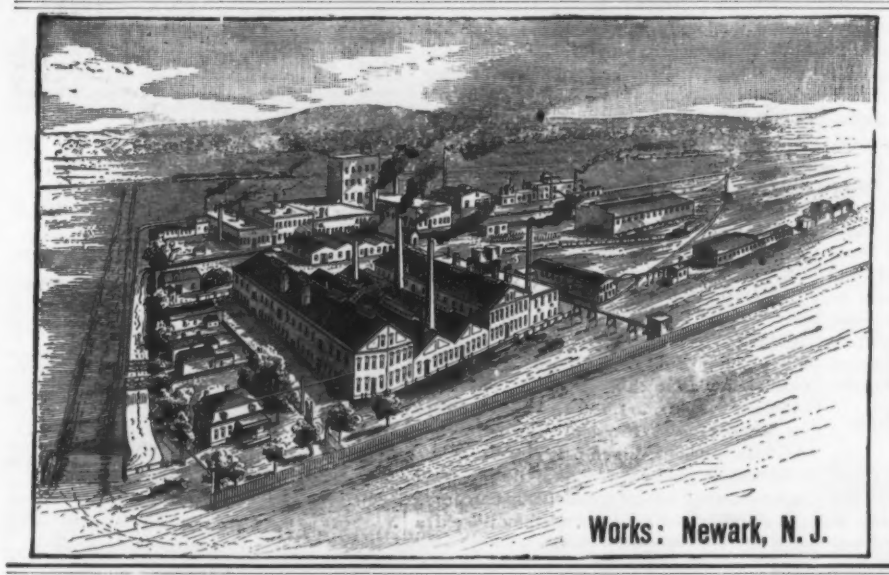

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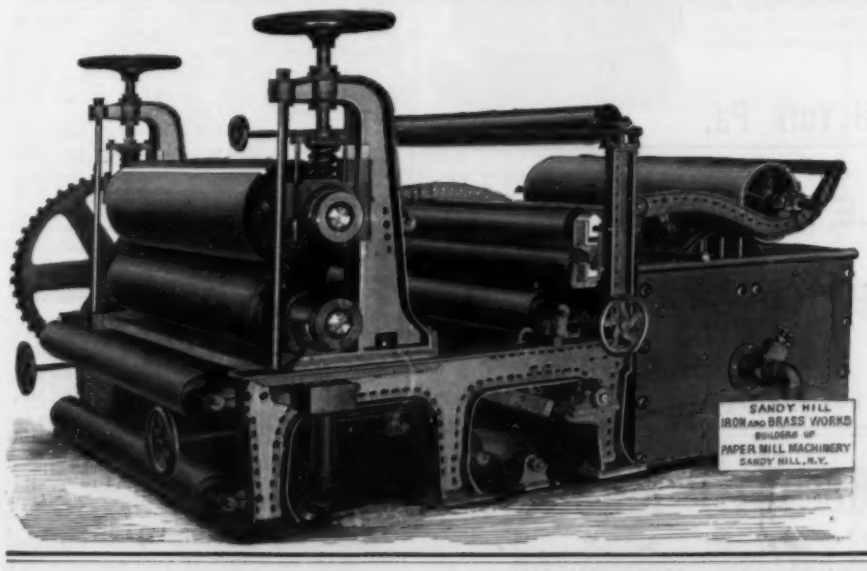

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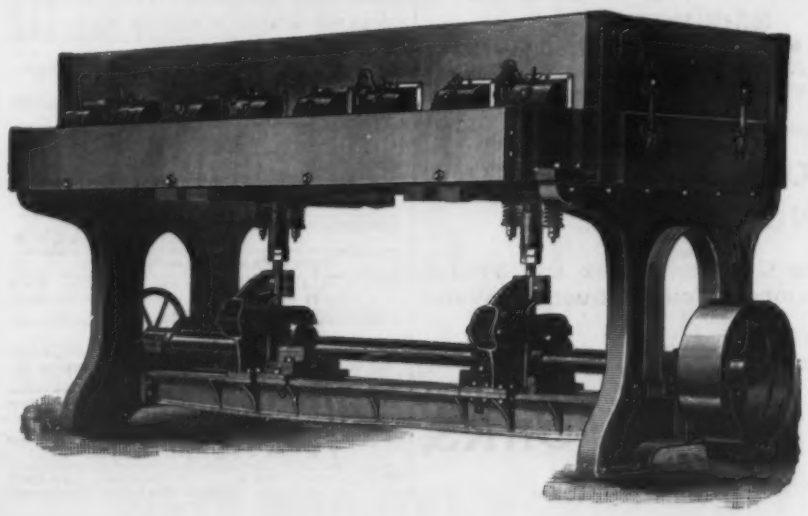

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Value of a Water Analysis.*

A water analysis is really not an analysis at all, properly so called, but is a series of experiments undertaken with a view to assist the judgment of determining the potability of the supply. The numerical results of a water analysis are not only unintelligible to the general public, but are not always capable of interpretation by a chemist, unless he is acquainted with the surroundings of the spot whence the sample was drawn, and is posted as to the analytical methods employed. It is very common for water to be sent for analysis, with a request that an opinion be returned as to its suitability for potable uses, while at the same time all information as to its source is not only unfurnished, but is intentionally withheld, with a view of rendering the desired report unprejudiced in character. Such action is not only a reflection upon the moral quality of the chemist, but it seriously hampers him in his efforts to formulate an opinion from the analytical results.

For instance, a large quantity of common salt is a cause for suspicion when found in drinking water, not because of any poisonous property attaching to the salt itself, but because it is usually difficult to explain its presence in quantity, except upon the supposition of the infiltration of sewage; yet an amount of salt sufficient to condemn the water from a shallow well in the Hudson Valley could be passed as unobjectionable if found in a deep-well water from near Syracuse, N. Y. A knowledge of the history of the water is no less important in order to interpret the remaining items of the water analysis. Some time since a water was sent from Florida to this laboratory for examination and found to contain 1.18 parts "free ammonia" per million. Much "free ammonia" commonly points to contamination from animal sources, and had it not been known that the water in question was derived from the melting of artificial ice made by the ammonia process, the enormous quantity of ammonia found would have condemned it beyond a peradventure. As it was, the water was pronounced pure, the other items of the analysis having been found unobjectionable.

Analytical results which would condemn a surface water are unobjectionable for water from an artesian well, for the reason that in the latter case high figures in "free ammonia" or "nitrates" are capable of an explanation other than that of sewage infiltration. Even though such water should at a previous period come in contact with organic waste material, yet the intervening length of time and the great distance of underground flow would have furnished abundant opportunity for thorough oxidation and purification.

"Deep" samples taken from the same lake, at the same spot and depth, will greatly vary in analytical results if the temperature of the water at the several dates of sampling should be marked different, owing to the disturbing influence of vertical currents.

Again, suppose it is desired to determine whether or not the water of a large stream is so contaminated with upstream sewage as to be unfit for a town supply. An analysis of the water taken from the site of the supposed in-take would very probably be valueless, because the enormous dilution to which the admitted sewage would have been subjected would remove from the analytical results everything of an absolute character. Examinations of any real value in such should always be of a comparative nature. Samples should be taken above and below the point of contamination, and again at the proposed in-take. If the difference between the first and second samples, which is a measure of the pollution, be maintained, or nearly so, at the point of in-take, then the water should be condemned, no matter how completely the analytical results fall within the limits of the so-called standards of organic purity.

As Nichols has well said: "It is a great mistake to suppose that the proper way to consult a chemist is to send a sample of water in a sealed vessel with no hint as to its source. On the contrary, the chemist should know as much as possible as to the source of the water, and if possible should take the sample himself." In taking samples for so important a matter as a town supply, the chemist should unquestionably personally superintend their collection; but for individual outlying waters printed instructions have to be frequently depended upon. Those issued from the laboratory are as follows:

Directions for taking a water sample:

Large glass-stoppered bottles are best for sampling, but, as they are seldom at hand, a new two gallon demijohn should be employed, fitted with a new soft cork. Be careful to notice that no packing straw or other foreign substance yet remains in the demijohn, and thoroughly rinse it with the water to be sampled. Do not attempt to scour the neck by rubbing with either fingers or cloth. After thorough rinsing fill the vessel to overflowing, so as to displace the air, and then completely empty it.

If the water is to be taken from a tap, let enough run to waste to empty the local lateral before sampling; if from a pump, first pump enough to empty all the pump connections; if from a stream or lake, take the sample some distance from the shore, and plunge the sampling vessel a foot and a half below the surface during filling, so as to avoid surface scum.

In every case fill the demijohn nearly full, leaving but a small space to allow for possible expansion, and cork securely. Under no circumstances place sealing wax upon the cork, but tie a piece of cloth firmly over the neck to hold the cork in place. The ends of the string may be afterward sealed if necessary.

Bear in mind throughout that a water analysis deals with material present in very minute quantity, and that the least carelessness in collecting the samples must vitiate the results. Give the date of taking the sample, and as full a description as possible of the soil through which the water flows, together with the immediate sources of possible contamination. — *Engineering News.*

* Abstract of a lecture by W. P. Mason, Rensselaer Polytechnic Institute, Troy, N. Y.

Split Pulleys.

Has it ever occurred to you that there are some methods coming into vogue that are cheaper in the long run to use than to be without? Among these is the split pulley. It costs money, and big money, too, at times to cut a keyway in a shaft when a new pulley is to be located. Have you ever used a good split pulley? If not, do so. A short time since I fitted out a whole shop with pulleys and shafting, and used nothing but split wooden pulleys. Hold? Well, not at first. Each pulley was tightened as well as we could do the work at the start and then watched. At the first indication of a slip the wrench was put on again, and that settled the matter for all time.

I had those pulleys driving every conceivable kind of ironworking tool, from a light drill to a heavy hammer, and never had the slightest indication of trouble. Then, when new tools were bought and old ones had to be shifted, ten minutes sufficed to take down the pulley. But when I did that job, I didn't know as much as I do now. I allowed builders to sell me tight and loose pulleys on the countershafting, so that for every machine having a 4 inch belt I had to buy a 9 inch split pulley. If I had the job to do again I would specify clutches. Of course the clutch would cost more than the extra paid for the double width split, and the additional loose pulley, but not so very much. And then I would save weight on my main line, and room also.—*J. H. Allen in Iron Trade Review.*

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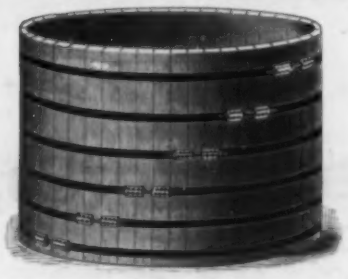

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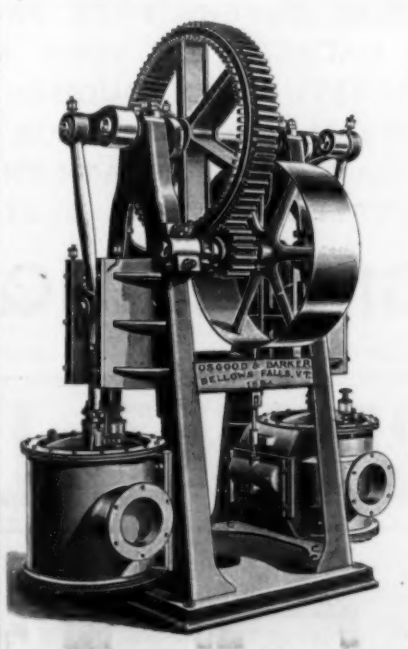

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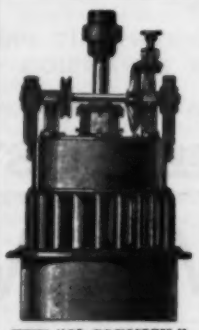

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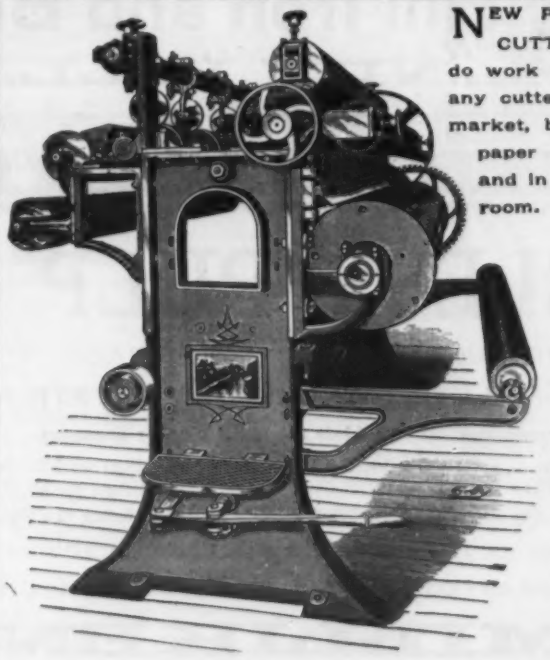

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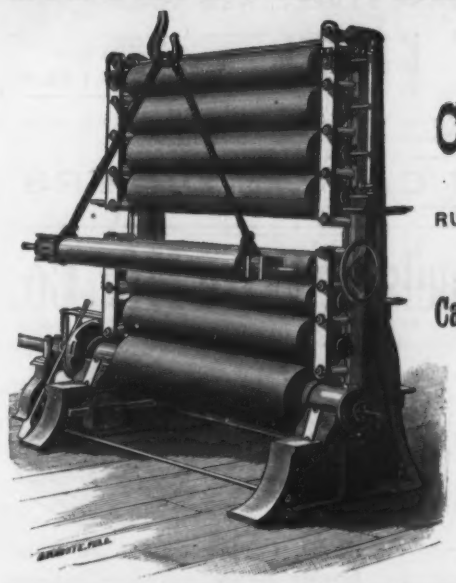

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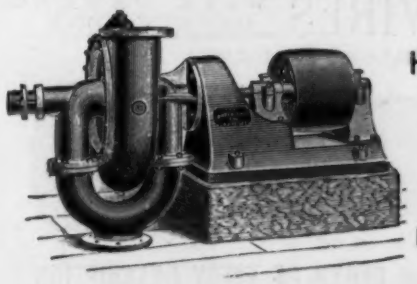

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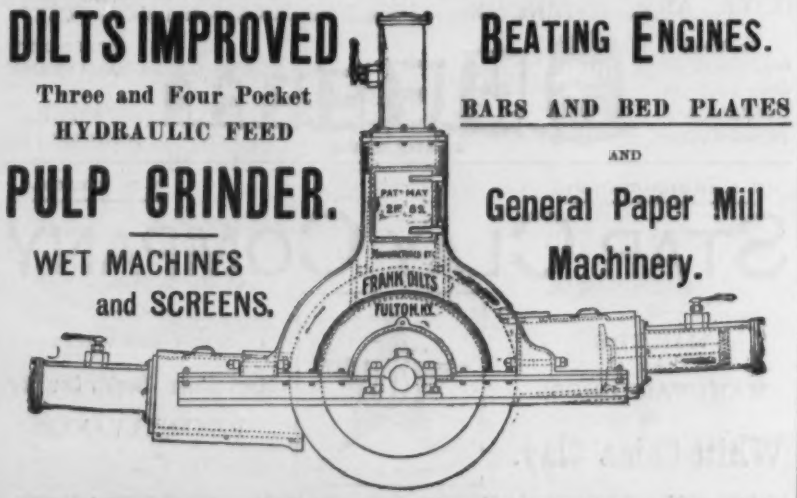

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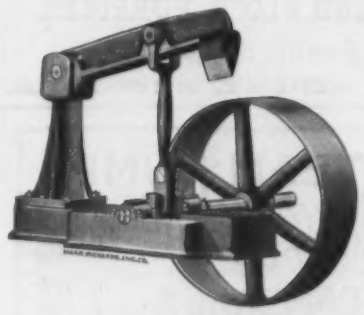

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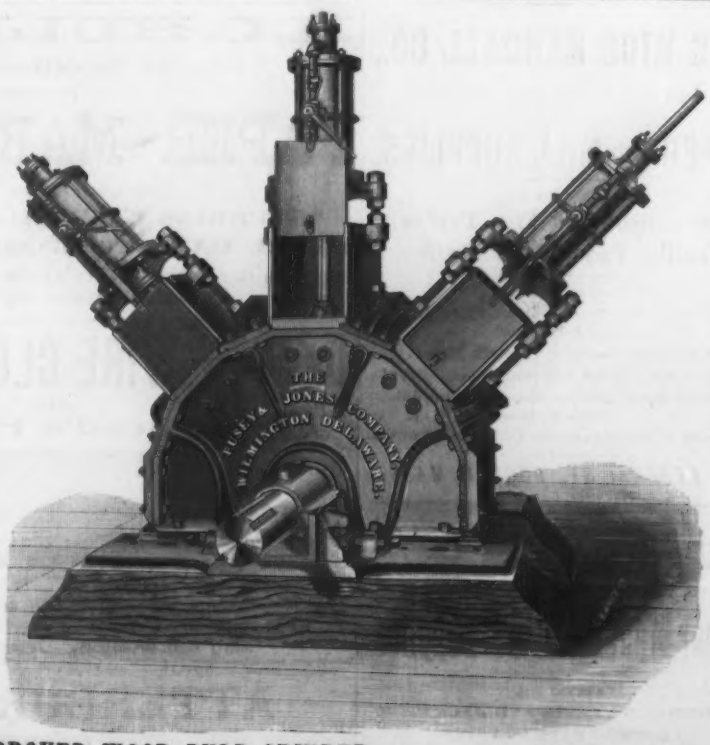

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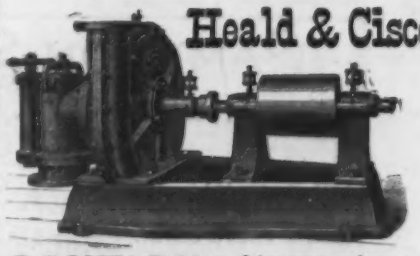

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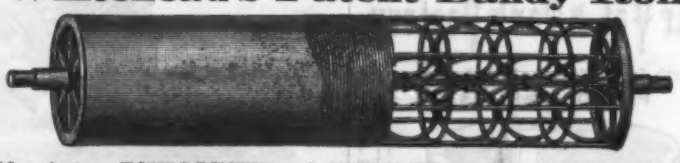

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